SOUTHERN
# TEXTILE BULLETIN

VOLUME 25 CHARLOTTE, N. C., THURSDAY, JANUARY 17, 1924 NUMBER 21

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# SOUTHERN TEXTILE BULLETIN

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# *Visiting the Textile Machinery Shops*

By David Clark, Editor.

IT being necessary for me to be in New England for several weeks on personal business, I am taking advantage of the opportunity to visit many of the shops in which textile machinery is built.

Calling at the Saco-Lowell Shops office in Boston, to see my old friend, R. M. Maulden, who has spent a considerable portion of recent years in China, I found him in conversation with an even older friend, Tom Trotter, a former Charlotte boy, who had returned that day from a four years' trip to China and Japan.

It was interesting to hear the two men discuss conditions and incidents in China and distressing to hear Tom Trotter tell of the earthquake in Japan. He told how the ground had opened and swallowed a four-story hotel so that only one story remained above ground and how a large cotton mill with 6,000 operatives locked in, as is the custom in Japan, collapsed and killed every one of those within its walls.

As we talked we were joined by Fred Havey, also of the Foreign Sales Department, Rogers Davis, Southern agent, Mr. Howe, the secretary of Saco-Lowell Shops, and E. O. Smith, the secretary of the Universal Winding Company, who happened to be paying a business call.

Expressing a desire to see some of the New England shops, an engagement was made on the spot for "Mac" Maulden to take me to the Newton Upper Falls shops of Saco-Lowell on Monday and Mr. Smith to take me to the Universal Winding Company shops at Providence on Tuesday.

I met Mac Maulden at the Saco-Lowell office at 9:30 a. m. on Monday and leaving South Station by train we were at Newton Upper Falls in about fifteen minutes and the shops had an automobile meet us at the station.

At the office I met O. E. Nutter, who is known as agent of the shops, a man who shows by his actions that he is keen, quick and efficient. Mr. Nutter has been with them for over 25 years, in fact, was with them as far back as the days when they manufactured Foss & Peevey stationary flat cards.

Mr. Nutter's son, K. L. Nutter, is following in his father's footsteps and is now assistant superintendent of the shops.

I inquired about my friend, Chas. Mills, the veteran of the textile machinery manufacturing game, and found that he was now filling the position of consulting engineer for the shops.

At my request Mr. Mills showed me over the shops and I spent two very pleasant hours listening to a man who has played a big part in textile machinery development describe with pride the modern textile machinery manufacturing process.

The shops at Newton Upper Falls manufacture cards, drawing frames and waste machinery. The pickers are manufactured at Lowell and the spinning frames at Biddeford, Maine.

They claim to have about sixty acres of floor space in the three shops and I can well believe it, for after following Mr. Mills around the Newton Upper Falls shops my feet felt like they had traversed a hundred acres.

The pride of the Newton Upper Falls plant is the foundry which they built in 1920, and they are well justified in that pride.

It is an enormous building with traveling mono-rail cranes which carry the red metal from two cupulos to the molds.

Practically all of the molding is done with machine drawing which insures uniform size as against the old hand drawing.

I was standing beside a card cylinder that had just been cast, when it began to jump up and down. It seems that they have a compressed air system for shaking the sand loose from the large castings.

All castings pass to the snag room where men with hand and pneumatic tools trim off the burrs and rough places.

The card cylinders are placed in a large lathe where nine tools all working at the same time trim its surface. Instead of the old way of one cutting tool going entirely across, the nine tools each cut for about eight inches each and the job is done.

The card sides pass, standing up, through a planer while large cutting tools trim both sides and other tools trip the ends.

Two arches are clamped in a large chuck which as it revolves brings the edge of arches between a set of small milling machine cutters that trim both sides and the surface of the arch. Everywhere the idea seemed to be to take as many cuts as possible at the same time, thereby saving much labor and insuring accuracy.

I neglected to say that all parts that are to be painted are dipped into paint vats before the machine work is done on them but, of course. there is later a small amount of brush work.

When they drill the holes in cylinders and doffers for tack pegs, the cylinders and doffers are fitted into a large chuck and about a hundred drills go to work at the same time. Then the cylinders or doffers are turned to a certain register and the remaining holes are drilled.

When drilling the holes in a card arch there is no measuring or laying out holes. The arch is clamped in a special lathe and a handle is moved until it fits in a certain registering nick when a half dozen drills start to work and when they finish another nick is reached and other holes are drilled. There is no guesswork and no measuring. Every arch is drilled at exactly the same places because the registering nick always puts the drills at the same place.

On one floor which has three bays, men were erecting and fitting twenty-five cards. They are completely erected except the clothing and then run for a while.

The erectors then move into the third bay and erect another twenty-five cards while the shipping gang lay thin boxes in the second bay and take down the completed twenty-five cards.

It takes about three days to erect an alley of 25 cards and when running at full capacity the Saco-Lowell shops produce 275 cards per month.

Many of the machines used in this shop have been designed and built by them and in order to do that work and produce the tools needed for the shops, requires a machine shop as large as some cotton mills.

There were two things that impressed me about the Newton Upper Falls shops. One was that every effort had been made to secure efficiency and accuracy in the operation of every machine.

The other was their extreme cleanliness. Nowhere was there any dirt or trash.

It is a wonderful and well managed shop and I wish I could remember more of the things that Mr. Chas. Mills explained to me.

Returning to the office at noon I was taken to the Community House for lunch, those going with me being Chas Mills, O. E. Nutter, K. L. Nutter, R. M. Maulden and Tom Trotter.

The Community House is a very handsome building erected by the Saco-Lowell Shops for the convenience of its employees. It had all the features of a modern mill community house, including baths and game rooms.

I neglected to mention above that the Saco-Lowell Shops are operated upon an open shop basis and that there are very few union members among their workmen. I was very much surprised to find such to be the case.

I returned to Boston about two o'clock after having spent a very pleasant and profitable visit.

**Universal Winding Co.**

On Tuesday morning, I took an 8:30 train out of Back Bay station on which was, by appointment, E. O. Smith, secretary of the Universal Winding Company, arriving at Providence about 10 o'clock, a car from the factory met us at the station and we drove about a mile. W. Shurnoff, the agent of the Universal Winding Company in Spain, drove out with us.

I found the Universal Winding Company had a much larger plant than I had anticipated and before I left I had a different opinion of the size and importance of the winding machinery game.

In the office I met E. F. Parks, superintendent of the shops, who has been with the Universal Winding Company for many years. We discussed our mutual friend, Charlie Pierce, now deceased. Charlie was in the South many years and few salesmen were more popular.

I also met an old friend, Geo. W. Foster, who was formerly a Southern salesman, but is now one of the Universal Winding Company experts.

Mr. Smith turned me over to Monroe E. Fagan. a salesman, and he conducted me over the plant.

Their foundry is about ten times as big as I thought it would be, but I did not realize that there were so many parts to make for a winder.

The foundry has been erected in

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# *Possibilities in New Cotton Areas*

(By Brian Phillips, in Boston Transcript.)

THE chief authority on world markets and new areas for cotton is W. H. Himbury, the dynamic and genial personality in charge of the British Cotton Growing Association, which he helped to found nearly 20 years ago. It has issued a series of annual reports embodying the results of his journeys in nearly all parts of the world in search of new markets and suitable growing areas. It illustrates his fairness of mind that he is all encouragement for the Empire Cotton Growing Corporation, a junior and official body, which has benefited by a grant of five million dollars from the British Government and receives support as well from the various governments of the empire. Now that the levy of sixpence per bale on all cotton consumed in England has been fixed by law, the Empire Corporation is financially assured for the future, besides receiving all the help it requires from our experts for the sake of the admirable cause of promoting sources and suppleis. But while it is well that the official departments should have their own organization, and fair competition can do no more harm here than it does elsewhere, a word is due to the senior body for what it did in early days and is doing now, and likely to do in future, in the way of enterprising inquiry and stimulative research. And its funds, be it remembered—something like two million dollars—have been provided by the earnestness, self-sacrifice and public spirit of the employers and operatives themselves.

One of the first things the association did was to engage years ago a number of cotton planters and experts from the agricultural colleges in America to cultivate cotton about the world in fairly large areas on the plantation principle so as to prove where cotton would or would not flourish up to the payable standard. Then a decision had to be arrived at as to what were the best methods for producing the crops. The operations thus resulting are available for inquirers in the excellent history written by J. Arthur Hutton in his book, "The Work of the British Cotton Growing Association," so far as concerns these earlier years. My object here is to bring this material down to date, and collate not merely Mr. Himbury's findings and ideas but the testimony afforded by other experts either inside or outside the association's personnel. One of its ticklish tasks was to determine how far the labor diffieulty could be solved in the African and other territories experimented in, and whether to work them under direct organized employment or cope with production by means of supervision of plantations run piecemeal by the natives themselves. This with the differences of tribe and distance and the proximity of alien and sometimes hostile influences, demanded no little tact and character for arriving at a right solution. Happily Mr. Himbury and his staff overcame all these difficulties, and his experience in this matter alone would furnish material of extreme interest, especially to readers who have like experience in coping with colored labor in the cotton to readers who have had like experience in fields of America.

Taking Africa first, province by province and district by district—but excluding South Africa, which is dealt with elsewhere—it turns out that the Gambia protectorate was too scattered in point of native population, and Sierre Leone not much better. The Gold Coast colony yielded good cotton and satisfactory labor results, though here again the natives preferred to cultivate cocoa as more remunerative, with the result that this industry has grown rapidly and is now enormous. Nigeria, with the biggest tropical population of any British area outside India—and it is nearly a third of India in extent—showed good results in its northern provinces, though attempts in the South upon the plains and near the seacoast were poor and unsatisfactory, partly due to the costliness and sparsity of labor, and partly to the conditions under which the land is held in trust by the chiefs for the people. Seed was provided gratis for the growers, and a market guaranteed, with the result that the crop has mounted to nearly 20,000 bales per annum for export, and fully four times as much for local spinning and weaving. What is wanted is better railway transport, and a better equipped agricultural staff. Mr. Himbury believes that with these facilities and careful treatment of the various problems involved, Nigeria should some day turn out the million bales a year that we require. Kenya, which has been the centre of so much strife of late over the question of barring out the Indian immigrant, has a population of over four millions, seven-eighths of which is native, but under the British East Africa Corporation the results have been poor, owing chiefly to high altitudes and heavy rainfall.

Next to Nigeria, Uganda affords the best results, for with an intelligent population of three millions, a favorable climate, and a fertile soil, cotton has gone ahead rapidly in the last eighteen years, and now ranks among the colony's exports to the tune of some eighty per cent. At one time the British taxpayer had to pay annually nearly $2,000,000 to make up the deficiency in revenue

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# *Causes of Uneven Dyeing on Piece Goods*

(By L. J. Matos.)



BY uneven dyeing is meant all those irregularities in the color of the cloth that show distinctly after the pieces have been finished. Unevenness appears in many ways, hardly two instances being exactly alike. The commonest form is that where areas of irregular outline show throughout the length of the piece, sometimes only one shaded area is distinguishable, and again several areas are easily visible. Another form of unevenness is where distinct streaks of varying widths are seen running lengthwise with the piece. These streaks appear to follow closely the direction of the warp threads, while at other times they are not so limited.

Shaded portions of piece goods are frequently observed extending crosswise from selvage to selvage, and may be higher or darker than the remaining portion of the cloth. Whatever the cause of unevenness, the result is always detrimental, and in most instances leads to the rejection of the goods for the original purpose intended, and involves their conversion into "redyes," a situation that retards the normal routine of the dyehouse, besides adding to a stock of material, the market for which is problematical.

When pieces show unevenness at long intervals, without any particular attention on the part of the dyer, it is the habit to overlook the matter, except to keep a watchful eye on operations in order to detect at once any difference in other pieces going through that might lead to a recurrence of the trouble. When no untoward condition arises, the matter is shortly forgotten in the some-and-go of dyehouse work, and is only revived, when, sometime later, another piece shows up requiring attention. On the other hand, when unevenness appears somewhat frequently, then the dyer and others interested generally institute an investigation to ascertain the cause of the trouble, which, in most instances simmers down to laying the blame on the dyes used, and as a consequence, a formal complaint is lodged with the supply house.

With very few exceptions, level dyeing is a condition of the cloth to be dyed, and not a property of the dye. This does not imply that any method of dyeing can be recklessly applied. It does mean that the cloth to be dyed should be thoroughly prepared so as to take the dye properly, so that, should there be any irregularity noticeable after dyeing, it may be traced directly to the proper source.

In the process of cotton cloth making, the warp threads are subjected to a sizing operation for the purpose of facilitating weaving. Without proper sizing, loose fibres would detach themselves from the threads, forming nubs or other obstructions that impair the function of the reeds and cause trouble for the weaver. The size used varies in different mills, frequently varying in the same mill for different kinds of warps. The composition of warp sizes is now pretty well known and need not be discussed here, except to mention that starch, oil, soap, and a fat or wax of some kind are commonly used in their making.

Besides laying the loose fibres, the warp size acts as a sort of lubricating agent to enable the threads to pass freely through the dents. After the cloth is woven, it requires certain specific treatment to prepare it for dyeing. This treatment may include bleaching, if the cloth is to be dyed light, bright shades. The main process through which the cloth is passed is boiling out with alkali which acts directly on the size, loosening the starch, and combining with any oils or fats, making them soluble, so that they may be completely removed later by washing. It is not necessary to go into the details of this boiling out process, except to insist that it should be so completely done that no trace of the original size remains in the pieces.

If this boiling out, which is generally done in an iron kier, is not thorough, distinct traces of the size still adhering to the warp threads will act as a resist to many dyes, and consequently, when such imperfectly treated goods come from the dye-bath, irregular shaded areas will be noticed.

Streaks running lengthwise with the pieces have been traced to the same cause. In kier boiling, lime is an important chemical, since it is alkaline in character, but it possesses certain disadvantages that are not shared by soda. When lime is brought in contact with fats or ordinary soaps, it combines with any free fat, and also with the fat of the soap, forming an insoluble lime-soap that is difficult to get rid of. In the ordinary treatment of cotton pieces, after they have been boiled and washed, they are subjected to a passage through a weak "sour," usually made with oil of vitriol. This "sour" causes a decomposition of any lime-soap in the cloth, with a consequent separation of the fatty acid which at once is absorbed by the cotton fibre and held so firmly in the fibre that its removal is accomplished with extreme difficulty, if it is removed at all. Cotton containing such liberated fatty acid will not dye as readily as pure, clean cotton, and this condition is largely responsible for much of the unevenness appearing on cotton fabrics.

Soda boils, followed by thorough washing with warm water will always leave the pieces clean and in a condition ready for level dyeing. The use of a "sour" is only a short cut to avoid washing; what it primarily does is to neutralize any alkali remaining in the goods, but better fabrics will be obtained by means of a more thorough washing with water.

Referring to the use of dyes. A dye or combination of dyes to produce a given shade should be se-

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# *Prevention of Fires*

Fire prevention as a field for scientific study is of comparatively modern origin. Like most economic wastes, destruction and loss by fire have long been regarded as necessary evils. Expensive an delaborate means have been developed to save life and property after fire has started, but only recently has the possibility of preventing fire before it starts been seriously considered.

It is the purpose of this article to explain briefly why fire prevention is of enormous economic importance, to tell what is now being done to combat fire waste, and to suggest a method of survey to gauge the adequacy of fire protection in any industrial plant.

Statistics on the extent of the yearly fire loss in the United States and Canada have been compiled for the last 44 years. They show a steady increase of from $78,000,000 in 1879 to $411,000,000 in 1922.

More accurate statistics have been compiled by the actuarial bureau of the National Board of Fire Underwriters during the last six years and their estimate for the year 1922 is close to $500,000,000.

These figures represent actual property destruction by fire. They do not include the enormous indirect expense of fire such as the upkeep of fire departments, the overhead of insurance companies, and the disruption of business. This indirect loss is probably close to a billion dollars or twice the actual property loss by fire.

While no accurate statistics on loss of life are available, the usually accepted estimate is that 15,000 persons are burned to death yearly and 17,000 persons are injured because of fire. Waste of life is an economic waste that cannot be compensated by dollars.

In connection with this tremendous yearly waste of lives and property it is worthy of note that with the exception of Canada our per capita fire loss greatly exceeds that of any foreign country. This is an interesting commentary on the psychology of the American people. It indicates our careless and irresponsible habits which are perhaps the outcome of our enormous wealth. What other nation could stand with equanimity a waste of half a billion dollars yearly?

**Most Fires Are Preventagle.**

Economic justification for this waste is usually argued along one of the following two lines:

1. That fire comes in the "Act of God" class: i. e., that it is not subject to human control, but is a misfortune which must be endured.

2. That the insurance companies pay for fire losses, so that there is no actual economic loss when a fire occurs.

It is not difficult to prove that both of these propositions are absolutely absurd.

Statistics show that over 80% of fires are preventable. In other words, most of the fires are caused by preventable conditions, acts of human indifference, or carelessness. There is no lack of information as to the protection of property against fire, but unfortunately there is a lack of general application of this information.

Insurance companies are necessary and valuable institutions, but they do not recreate burned property, nor do they operate mints. Every commodity costs a little more because of the insurance premium that the manufacturer, the middleman and the retailer have had to pay. If the fire waste is cut down insurance costs less and the cost of living is reduced.

The science of fire prevention and fire protection had its origin about 75 years ago in some of the mills of New England. Through the efforts of the mill owners the automatic sprinkler was developed and other means of protecting property against fire by means of improved construction and fire fighting facilities were instituted. The mills interested in improved fire protection formed mutual insurance companies and these companies in turn attracted engineers who gave their full time and training to the development of fire protection.

Other insurance companies, seeing the success of this work also engaged trained men to look after the protection of their interests and gradually through these insurance engineers and other engineers who were coming in contact with fire hazards in various industries, the science of Fire Protection Engineering was developed.

Most of this work has been sponsored by the National Fire Protection Association, which was organized 28 years ago "To promote the science and improve the methods of fire protection and prevention; to obtain and circulate information on these subjects and to secure the cooperation of its members in establishing proper safeguards against loss of life and property by fire." The membership of this organization includes insurance engineers and inspectors, consulting engineers, architects, builders, fire chiefs, and anyone interested in fire prevention and protection.

The technical work of the association is carried on by some 25 committees covering such subjects as automatic sprinklers, building construction, electrical hazards, inflammable liquids, and protection against lightning. The carefully prepared standards which are issued as a result of this work are available to all engineers in all industries.

Apart from the technical development of fire prevention the movement has made slow progress, but at the present time the signs indicate a more general interest in conservation of lives and property each year. Most of our States now have a fire marshal or a fire prevention department which is doing valuable educational work in fire prevention. Fire chiefs are coming to realize the value of fire prevention and are helping to educate property owners on fire hazards.

Fire Prevention Week, sponsored by the National Fire Protection Association and receiving the endorsement of former President Wilson and President Harding, has resulted in much valuable public education

in fire prevention. Some of the schools are now instituting courses in fire prevention to impress upon children the fact that fire prevention is part of their obligation as citizens.

Armour Institute of Technology is the only institution of higher deucation that has a full four-year course in fire protection at the present time. The demand for the graduates of this course has been very great in industry and in the insurance companies. Massachusetts Institute of Technology has a short course, optional with the students in Mechanical Engineering.

Other colleges giving courses in fire protection at present are University of California, New York University, University of South Carolina, and University of Florida.

Undoubtedly many of the present technical undergraduates will have to face the fire prevention problem when they enter the industrial world. Fire prevention is often sadly neglected or ignored by the management and workmen of industrial plants and it is therefore a field where prolific results can be obtained by an engineer who is cognizant of its importance. The following is a brief outline of some of the many features which have to be taken into consideration in sizing up the fire safety of an industrial plant.

The location of the plant is of considerable importance. The chance of damage due to fire in an adjoining or nearby building must be noted. The character and probable fire hazard of neighboring plants or buildings will have a bearing on the protection needed. The accessibility of the public fire department and also of an adequate water supply must be taken into consideration.

The ability of the plant structures to resist fire must be studied. This means not only the character of construction but includes a study of the extent of open area subject to fire damage, the protection of wall and window openings and of vertical shafts and stairways. A plant may be of reinforced concrete construction but if it is packed with inflammable contents it will burn just as the contents of a stove will burn. It must be provided with proper fire walls with automatic fire doors, wired glass windows in metal frames, fire shutters, etc., for if there is a weak spot in the construction the fire will find it. The plant must contain adequate exit facilities, such as enclosed stairways or smoke proof towers to insure life safety.

A survey of the fire protection equipment in a plant involves a knowledge of automatic sprinkler systems, stand-pipe and hose systems, hand fire extinguishers, fire pumps, gravity tanks, and automatic fire alarm service. The ability of employees and watchmen to handle the apparatus in case of fire must also be investigated. It should be noted here that automatic sprinkler systems have shown a remarkable efficiency in checking and extinguishing fires. A study of the action of sprinklers in a large number of fires in various industries shows that the sprinkler system is somewhat over 95% effective.

The layout of plant processes and buildings often has an important bearing on the possibility of serious fires. The particularly hazardous processes must be marked and their segregation from other processes considered. The possibility of rooms in which valuable stock is kept being exposed to fire or water damage should be noted. The possibility of spread of fire through a building or to adjoining buildings must be examined.

The chief sources of fire hazard encountered in any industry can be listed as follows, approximately in order of importance: smoking and the careless use of matches, electricity, heating plants, inflammable liquids, spontaneous ignition of rubbish or waste, sparks from machinery, and use of open lights. The situation with regard to each one of these should be checked up so that obviously dangerous conditions can be eliminated. It is often easy to find most flagrant disregard of ordinary precautions against any of these hazards.

In the majority of industries there can be found one or several processes peculiar to the industry which involve a fire hazard. For example, picker room fires are very prevalent in cotton mills. Dry kilns and shavings vaults are common starting places for fires in the woodworking industries. Dip tanks are danger spots in automobile factories.

It must, of course, be realized that considerable special knowledge is necessary in making a thorough survey of plant fire protection. But, with a comparatively small amount of thought and research on the subject, any engineer should be able to make a survey of the nature described which can be of real value in promoting the safety of his plant. —Technical Engineering News.

### Czech Textile Prices Higher.

Prices of Czech cotton yarns and finished goods in Czechoslovakia were higher in November, Acting Commercial Attache Groves reports. Although there has been some talk of reduced operations in the spinning mills, there has been no curtailment on any important scale, and the spinning departments of some of the mills are operating at full capacity. Stocks of cotton yarns in the country, as well as finished goods, are reported somewhat smaller than usual.

### German Raw Cotton Imports and Stocks.

The net imports of raw cotton into Germany, exclusive of linters and waste, during the first four months of this year totalled 164,000 bales, of which 107,000 bales were of American origin. According to estimates based on the best available information, consumption during the same period was small, totalling only 214,000 bales, of which 121,000 bales were American. Total mill stocks on December 1 amounted to 50,000 bales, of which 30,000 were American, while port stocks on the same date totalled 32,000 bales, including 28,000 bales American, Assistant Commercial Attache Donald L. Breed, Berlin, reports in a cable to the Department of Commerce.

# *The Fly Frame*

THE taper gear controls or regulates the amount of taper at the ends of the bobbin of roving. This taper is effected by the gradual shortening of the length of the layers of roving on the bobbin, the first layer next to the bobbin being the longest, the next just a bit shorter, and so on throughout the winding of the bobbin, the last layer wound on to the bobbin being the shortest. The gearing to effect this condition is as follows: The builder is mounted on the bobbin rail, and moves with the bobbin rail, the closing of the builder jaws as the winding of the bobbin takes place causes the carriage to be reversed a little bit sooner for each layer of roving, thus giving the taper. The builder jaws are mounted on a screw, the one end of which is threaded left hand, the other end right hand. The jaws of the builder are so threaded as to match with screw, one jaw working in the threads of the left hand and the other jaw in the right hand threads. The turning of this screw closes the jaws, thus decreasing the length of the traverse of the carriage, thereby shortening the length of the layer of roving wound on to the bobbin. This screw extends upward from the builder jaws to a little above the top of the drawing rolls. Directly above the threaded portion of the screw is a gear of 12 teeth. This 12 tooth gear meshes with and drives an 18 tooth gear. This 18 tooth gear is on a stud with a 13 tooth gear, this 13 tooth gear meshes into the teeth of the belt rack. (In some cases we find the gear on the rod or shaft with the screw, gearing direct into the belt rack, but the purpose is the same in both cases.) This 13 tooth gear is the taper gear. It will be remembered that the belt rack moved at the end of the winding of each layer on the bobbin, then it will be seen that also at the end of the winding of each layer on the bobbin the taper gear, which as above stated meshes with the teeth on the belt rack, will be turned by this movement of the belt rack. This turn of the taper gear causes the screws of the builder jaws to turn, closing the builder jaws, thus causing the next layer to be wound on the bobbin to be slightly shorter than the previous layer, and so on during the winding of the bobbin. When the bobbins are full and a new set is to be started the builder jaws are opened by the turning of the hand wheel at the upper end of the rod, thus each new set starting with the builder jaws in the same position. After the correct taper is obtained on the bobbins, it is not necessary to make a change in this gear.

**Take Up Gearing.**

The purpose of the take up gear is to regulate the amount of tension which is on the roving at the start of each new set or doff.

The location of the take up gear varies with different makes of frames. On some frames it is located on the end of a shaft known as the take up shaft, this shaft being located just below the bottom cone, and receiving its motion from the gear on the small end of the bottom cone. On another make of frames the take up gear is located on a short intermediate shaft, this short intermediate shaft receiving its motion through a train of gears from the gear on the bottom cone. On still other frames the cone gear is used as the take up gear. In all of these layouts the purpose of the take up or cone gear is the same. That is, to regulate the speed of the compound, thus controlling the excess speed of the bobbins when the cone belt is in starting position, this regulation giving the roving the correct tension. The excess speed of the bobbin is the only speed effected by the take up gear, this being accomplished through the change in speed of the compound. A smaller take up gear drives the compound slower, decreasing the tension on the roving at the start of the set. A larger take up gear drives the compound faster, also the bobbins and increases the tension at the start of the set. When once the correct take up gear is obtained it is not necessary to change again, except in the event of changing diameter of bobbin on which the roving is wound.

**Stop Motions.**

Fly frames are equipped with only one stop motion, that is to stop the frame when the bobbins are full as desired. It is necessary that the frames have close attention of the tender in order that the frame may be stopped off as soon as possible when an end comes down.

The full bobbin stop motion is arranged as follows: A shipper rod extends throughout the length of the frame, so that frame may be stopped off from any point along the side of the frame. Near the head end of the frame this shipper rod passes through the eye of the knock off lever. The knock off lever has an arm to which is attached a heavy weight. Near the lower end of the knock off lever is a knock off latch. This knock off latch extends in the opposite direction to the weighted arm. The knock off latch extends through an opening in one of the samsons. On this samson is a bracket, a slot in the latch fits over this bracket, the latch thereby being kept in position to allow the frame to run. The lower end of the knock off lever is located near the cone belt shifting rack. A knock off dog is fastened to this shafting rack by a set screw. When the shifting rack is moved far enough for its dog to come in contact with the lower end of the knock off lever, the knock off lever is raised, allowing the knock off latch to be disengaged from the bracket on the samson, the force of the weight on the arm of the knock off lever then causes the belt to be shifted from the tight to the loose pulley, stopping the frame. The time of knocking off with reference to the size of the bobbins may be set to meet the needs. This is accomplished by moving the knock off dog, which is set screwed to the rack, so latch when the bobbins are at the that it will come in contact with the desired size.

(Continued on Page 31)

# *Southern Power Company Gets Rate Increase-Will Build Two New Plants*

The Corporation Commission of North Carolina on Saturday announced that the petition of the Southern Power Company to increase its rates for power in this State had been granted. The new rates will take effect on February 1.

The new schedule, which the power company first petitioned for in 1920, will principally affect large users of primary power, the cotton and flour mills, and does not affect the rates for electric lighting in municipalities. The rate just granted begins at 1.40 cents per kilowatt hour as against 1.25 cents per kilowatt hour under the former schedule, grading down to 1 cent per hour.

After taking into account all factors involved on the petition for the increase, the commission finds that, upon the schedule of rates heretofore in effect, the power company's rate of return on investment for 1924 would be 4.436 cents, and that under the new schedule, approved now, its rate of return would be 6.86 per cent.

In granting or approving the new schedule, the commission acted under the principle that "when the State exercises its right of regulation of monopoly in public service to prevent the charging of such rates as will at any time yield more than a fair return, it gives bond of its character to permit the use of such rates as will yield a fair return under economical management of the property."

The Southern Power Company, having proved through its testimony and presentation of evidences that its management has been economical and conservative, the commission in granting the schedule recognizes the 6.86 per cent return fair and just amount to be realized on the stupendous investment.

When, in 1920, the commission granted the modified increase in the rate schedule of the company, it invited the petitioner to ask a rehearing if it found the modified schedule insufficient to afford a reasonable return on the investment.

With the request for the respondents to act should the increase prove excessive, in issuing the order granting the higher schedule originally petitioned for in 1920, it invites the group of power consumers opposing the petition in the rehearing to bring the matter again in issue if the new schedule should work to the production of a rate greater than a fair return.

**To Build Two Plants.**

The Southern Power will soon begin construction of two new electric generating stations at a total cost of about $5.000,000, according to announcement by C. I. Burkholder, president, on Saturday. The announcement of the plans for building the two new plants was made immediately following the decision of the State Corporation Commission to allow the increase in power rates that the Southern Power Company had petitioned for.

The announcement of the immediate construction program to be put under way by the Southern Power Company includes the erection at once of the hydro-electric plant at Rhodhiss, of 40,000 horsepower; and the erection of a steam electric development plant at Duncan, S. C., between Spartanburg and Greenville. Work on these plants will begin at once, it is stated, and will be rushed to completion at the earliest possible time.

The Rhodhiss plant will be located on the Catawba river in Caldwell and Burke counties, about 10 miles from the city of Hickory. It will develop 40,000 horsepower and will be about one-half the size of the Mountain Island plant, near Mount Holly, which has been finished at a cost of about $6,000,000. The Mountain Island plant will develop 80,000 horsepower. The probable cost of the Rhodhiss plant, it is understood, will be about $3,000,000.

The plant at Duncan, S. C., will be a steam plant for the development of electric power, and will be four-fifths as large as the steam plant at Mount Holly, in this State, which is among the largest in the United States. This plant also will develop 40,000 horsepower, and will cost around $2,000,000 to build, it is understood. The Mount Holly plant was originally built to develop 10,000 horsepower, and last summer was extended to develop 40,000 horsepower more.

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**Mills May Protest Again.**

Greensboro, N. C.—Decision whether or not to appeal from the ruling of the North Carolina Corporation Commission, which allowed the Southern Power Company to increase its rates for electric current, has not yet been made, E. S. Parker, of this city, attorney for about 20 cotton mills, said.

Mr. Parker represented mills in Burlington and other parts of Alamance county and in Orange county throughout the matter protesting against increase in rates. He is associated with A. L. Brooke, of this city, who also was attorney for protestants against rate increases.

Mr. Parker said that he does not know what the outcome will be until he consults with his clients, he was unprepared to say whether an appeal would be made. He expects to consult with the mill executives soon and decide upon some course of action.

The firm recently filed a brief with the Corporation Commission on behalf of the Revolution Mills, of this city, one of the protestants, in which it was alleged that mills in other States are already getting current at a cheaper rate than those in North Carolina, and that the Southern Power Company paid its allied companies more for current manufactured than it is paying outside companies. However, the brief evidently had no effect upon the Corporation Commission.

# Natural or Forced Draft—the McClave Hopper-Feed Hand Stoker is Efficient with Either

THE illustration shows a McClave Hopper-Feed Hand Stoker under a 150 h. p. H. R. T. boiler in the plant of the R. E. Cobb Company, St. Paul, Minn.

Note that this stoker is being run on natural draft, as indicated by the open doors of the ash pit. An interesting feature of the McClave Hopper-Feed Hand Stoker is its adaptability to either natural or forced draft.

Equipped with the McClave Argand Blower, this stoker will efficiently burn the lowest grade bituminous and lignite fuels, and is *guaranteed* to comply with *all* municipal anti-smoke ordinances.

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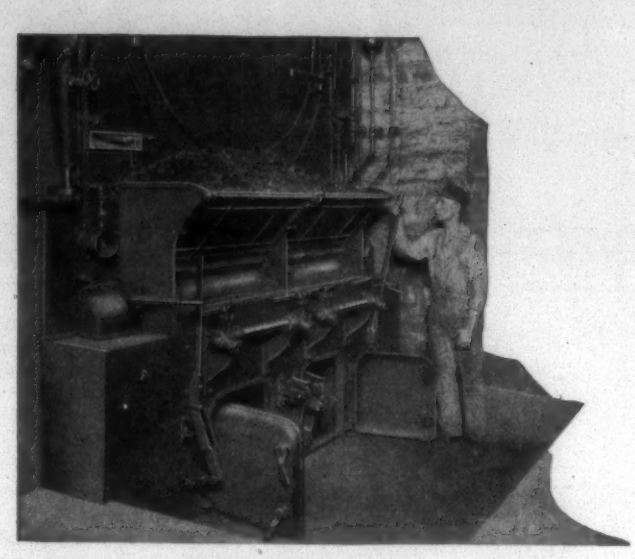

*Commenting on this McClave Hopper-Feed Hand Stoker in plant of R. E. Cobb Company, St. Paul, the chief engineer, Mr. L. A. Moldenhauer, says, "Since its installation six months ago, this stoker has given very satisfactory service."*

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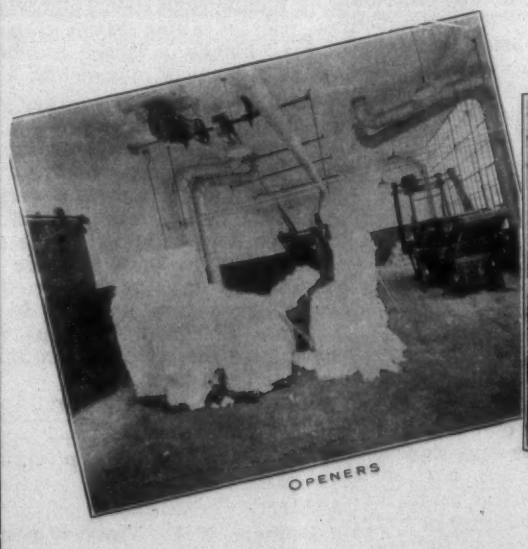

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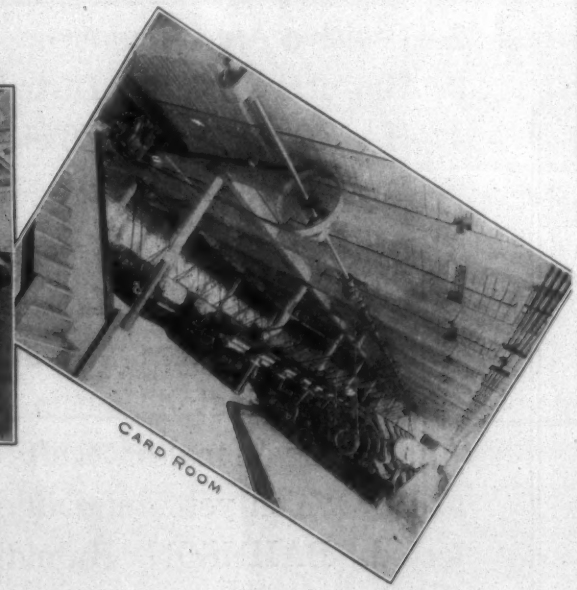
PICKER ROOM



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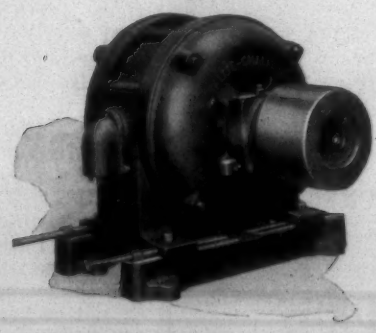

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# Practical Discussions By Practical Men

### Handling New Cotton.

Editor:

I would like to have some one advise me about the best way to handle new cotton. I have been handling green compressed cotton and it is hard to run. I want to know what adjustments I can make to make it run better.

Compress

### Card Settings for Waste.

Editor:

I want to get some information on card settings for low grade cotton and waste. What are the best settings for cards running low grade stock consisting of one-half low grade cotton and one-half strips? How can I set my cards to get the best results on this stock? I would also like to know how I can prevent the sliver from such carding breaking down at the front of the card.

Waste.

### Waste on Section Beams.

Editor:

We are making denims and dye our warps from ball warps of 400 yards. We find that our section beams do not always run out even at the slasher and often one beam has from 4 to 10 yards on it after the others run out. I would like to know whether this waste is caused in the warper room, the dye house, the beaming room or the slasher room. How can we locate the trouble and what is the best way to remedy it?

Warper.

### Making Good Laps.

Editor:

I think a good many troubles in the card room are due to the fact that some overseers do not realize the vital importance of making good laps. A good lap is one that will weigh the same in any part of a given length and be free from foreign matter. It is the duty of every carder who has charge of the picking also to see that the laps are right.

Also should not vary more than one-half pound each way from the weight desired and in order to know that the laps are running right, the carder should test a few laps each day. The inside of the picker should be cleaned at least twice a day, as this cannot be kept too clean. Rolls should be kept smooth at all times. All working parts should be kept well oiled and working freely.

In setting the beater for ordinary 1-inch American cotton, the distance between the beater blades and the feed rolls should be from 3-16 to 5-16 of an inch. The grid bars should be set to the beater one-half inch at least, while the distance between bars is usually one-half inch from the edge of the first three bars, while the rest are about ⅝ inch apart. The apron should be kept tight so that there will be no slip and all gears should be set to the proper depth.

The air current should be watched very carefully. If it is too weak, an uneven lap and too much waste will be the result. If it is too strong the cotton will not be properly cleaned and split laps will result.

K. P. T.

### Saving Labor Cost.

Editor:

I understand that in some of the New England mills they have successfully carried out a system of having the best spinners and weavers do nothing except run their frames and looms and using less skilled help for creeling and cleaning in the spinning room and filling batteries in the weave room. In other words, the most expert spinners in the mill do nothing except run frames and are consequently able to tend a large number of sides and thereby get a greater production. Weavers who do nothing except handle their looms and who are relieved of filling batteries can of course handle a larger number of looms and get off more cloth.

This strikes me as a rather sensible proposition. Under present market conditions, everything that we can do to shave off something from our manufacturing costs is very important. Using less skilled and cheaper help in many of the operations that our best workers have to include in their other duties looks like a very practical idea.

If any of the mills in the South have tried this system, I would like to hear from them.

South Carolina.

### New Residence of S. P. Stowe Burned.

Belmont, N. C.—The new home of Mr. and Mrs. S. P. Stowe, one of the handsomest homes in Gaston county, was completely destroyed by fire early Saturday morning. The house was nearing completion, the family expecting to move in in about six weeks, and the large part of the furnishings were already in the house, most of it still in the packings in which it was sent from the factory. The entire interior of the house was gutted.

The origin of the fire is unknown. Flames were bursting from the roof when discovered, and it was impossible to even enter the house to tell where it originated. The house is said to have cost in the neighborhood of $150,000. Mr. Stowe is one of the leading mill men of Gaston county.

### Bleaching Powder and Chlorine Prices.

One of the leading producers announce that they have withdrawn all previous quotations for new business and after January 5 will quote as follows:

Bleaching powder for spot sales and future contracts in carload lots:

$1.50 per 100 pounds in standard (700 lb.) drums, f. o. b. Niagara Falls.

$1.75 per 100 pounds in small (300 and 400 lb.) drums, f. o. b. Niagara Falls.

Shipments in less carloads, spot or contract, fifteen (15) cents per 100 pounds above these figures.

Liquid Chlorine for spot sales and future contracts in tank car lots:

$3.50 per 100 pounds (single units or multi units), f. o. b. Niagara Falls.

$4.50 per 100 pounds in cylinders, in carload lots, f. o. b. Niagara Falls.

$5.00 per 100 pounds, for sales of more than one ton, f. o. b. Niagara Falls.

$6.00 per 100 pounds, for sales of one ton and less, f. o. b. Niagara Falls.

### Installing Machinery in Worsted Mills.

Installation of machinery in the Southern Worsted Corporation's new plant near Greenville was begun this week. It is planned to have the mill in operation within the next three months. The buildings are now virtually complete. It will be the first worsted mill in the South and its operations will, for that reason, be watched with unusual interest.

The new plant will have a working equipment of 120 looms and 6,000 spindles. The promoters declare the plant will turn out worsteds valued at $50,000 each week.

Only combed wool will be used at the outset and probably none other will be used at all. This will be secured from Boston, known as the wool center of the world. About 175 employees will have a hand in the operation of Greenville's first worsted mill and the weekly payroll is expected to be from $2,500 to $3,500. From these figures it will be seen that in the course of a year Greenville's payroll alone will be increased by about $150,000 by the presence of this plant.

Present plans do not call for the use of any cotton in the product to be made by the Southern Worsted Corporation, although it is possible that later a small amount of cotton thread will be used. However, the new plant cannot in any sense be termed a cotton mill, although it is built along lines similar to the cotton mills which dot the Piedmont sections of the two Carolinas.

In one respect, particularly, does the mill resemble its neighboring textile plants, and that is in the village surrounding it. A total of 84 houses have been prepared as homes for the employees who will work in the mill. Nothing remains for these to be converted into homes but for the families to move in and this will begin the latter part of January.

The worsteds to be made will be sold direct to the manufacturer and eventually will find their way into medium priced worsted clothing to be sold the country over. All goods will be dyed and finished in the plant.

The plant is electrically driven with the exception of the heating, drying and finishing departments, these being operated by steam. As only combed wool will be used for the present, no combing or carding will be necessary but with that exception the product will be made from the raw material into worsteds ready for the manufacturer.

Plans call for the operation of a small part of the plant by February 1 and additional portions of the mill will be in operation just as soon as the machinery can be installed.

J. F. Syme, one of the vice-presidents, has been in Greenville for some time and is personally supervising the finishing details of the plant. Other officials of the Southern Worsted Corporation are B. E. Geer, of Greenville, president; F. A. Fleish, of New York, vice-president; A. M. Patterson, treasurer, and H. V. Walker, secretary.

Mr. Syme said that Southern labor would be used, the company making no radical departure from plans used by other textile plants of this section in securing help.

### The Week's Cotton Trade

The trend of cotton prices was again downward during the week ending January 11, but the decline was broken temporarily by a rather sharp advance on Monday and Tuesday. The spot situation in the South remained firm with an active demand. Exports for the season up to January 11 were still half a million bales larger than the exports for the corresponding period of last season.

The chief bearish influence on prices were further talk of mill curtailment, continued inactive demand for cotton goods and the ginning report of the Bureau of the Census issued on the 9th. The ginning report showed that 9,807,138 bales of cotton of the growth of 1923 had been ginned prior to January 1, 1924, compared with 9,597,330 bales and 7,882,356 bales for the corresponding period of 1922 and 1921, respectively. The ginnings were only slightly above general trade expectations but their immediate effect on prices was bearish.

On January 11, January future contracts on the New York Cotton Exchange closed at 33.55 cents, compared with 34.24 cents on January 4. January future contracts on the New Orleans Cotton Exchange closed at 33.58 cents on January 11, compared with 34.55 cents on January 4.

The average of the quotations for No. 5 or middling cotton in 10 designated spot markets was 33.86 cents per pound at the end of the week, compared with 34.45 cents on January 4, and 27.44 cents on the corresponding day last year.

Cerificated stock at New York on January 11 was 165,329 bales, and at New Orleans, 20,988 bales. Total stocks, all kinds, at New York were 176,562 bales, and at New Orleans, 240,970.

# *Removal of Mills to South Indicates Serious Situation*

CONDITIONS in the New England cotton textile industry are becoming so serious that the co-operation of all connected with it in any way is necessary to again place it on a firm basis, according to Kenneth Moller, director of Lockwood, Greene & Co. But the result of this concerted action, he believes would be an industry so firmly established that it could not be shaken, and having assured competitive ability.

The actual removal of mills to the South can harm the industry little, in the opinion of Mr. Moller—the extent of the injury will consist only in the removal of so much capital from New England's development, and the subtraction of a relatively small number of spindles from its total. But the outstanding problem is to keep those mills remaining in the North in operation. The most essential element there, Mr. Moller says, is absolute economy. He presents some figures showing how small mistakes cut down profits and demonstrates the importance of the co-operation and good will of employees, and the application of skilled operatives to those processes only in which they are of most value.

**Attention of All.**

"That Northern interests are buying Southern mills and erecting Southern plants is bound to be of great assistance to the present textile situation of New England, for the principal reason that it is focusing attention on the present textile industrial situation in New England," Mr. Moller says. "Until everybody who should be interested—labor, management, legislature and public—realizes exactly the conditions as they exist today, no solution of the existing problem will be found.

"The only harm that can come to New England through the purchase of Southern mills by Northern interests is the removal of a certain amount of capital from New England's development and the loss of the small number of spindles," Mr. Moller goes on to say. "New England need not worry about the further expansion of its textile industry. Its problem is to keep its present mills in operation. New England's development in the industry will come from taking more out of what it has rather than by adding to existing mills.

"There is nothing to worry about in the actual moving of spindles from New England to the South. Perhaps 100,000 spindles have been or are being shipped to places where owners think they can operate to greater advantage. This loss will not be noticed. It is a sacrifice which must be paid in order to focus attention on the situation as it exists today, to the end that the necessary corrective measures will be put to work to hold the balance of the industry intact.

**Something Must Be done.**

"In belittling the matter of actual moving of spindles from New England to the South and lack of further expansion here, I do not mean to intimate that the situation is not serious. It is serious, and that is the beauty of it. It is so serious that something must be done. It is so serious that every one must give it the closest consideration—everybody connected with the industry, which includes several classes of people: the mill operatives, the mill management, the mill stockholders, the selling houses, the machinery manufacturers, the legislature, the tax assessors, the railroads. There is no doubt in my mind that with each class trying to help, and all with a common object, the results will be obtained.

"I am not going to try, in this article, to deliver a sermon about co-operation and brotherly love, but I am going to point out a few things which each of the above classes must seriously consider for their own personal salvation, which doubtless is the strongest way to appeal to all concerned.

"Individuals must be made to understand that not only the existence of the industry but their own existence depends on giving the very closest consideration to the principles set forth. The result would be a textile industry in New England put on a basis so firm that it could not be shaken, and in a way that would assure the competitive situation of the New England cotton industry.

"Take first the mill operatives. What can they do to help the situation?

**Subject of Operatives.**

"We take up the operatives first because the greatest disparity between production costs in Southern mills and Northern mills is in the labor cost; besides, the wage earner of the cotton mills is by far the largest class affected.

"Labor costs in New England mills must first be reduced by labor itself. Let us consider ways by which this can be done without a reduction of wages. There is no question that labor has hurt itself tremendously in the cotton industry in late years. Labor must receive a just return, of course. It will never accomplish this by a high hourly rate. It means nothing that New England mill workers get $20 or $25 a week. How much they get a year—that is the important question. The operatives are foolish to insist on the 48-hour law. They take bread out of their own mouths. How can they expect a New England mill running 48 hours a week to compete with other States running 55 and 60 hours a week? This is entirely aside from the merits of the 48-hour law. This one step New England labor must take to put the textile industry here back where it should be. If the operatives want to strive for a 48-hour law, and it may be right, let them work for a national 48-hour law and not penalize Massachusetts, pending its passage. This is a reform which labor itself could easily put into effect without reducing its weekly wage, and there can be no question that this reform, put into effect by labor, would materially increase its yearly earnings and put the mills on

a basis which would enable them to operate full time.

"The mill operative can be of enormous assistance by producing more pounds per operative per hour. Take, for example, a weaver. On ordinary print cloths, a weaver spends approximately 45 per cent of her time in filling batteries, and may operate 20 looms. A weaver of this class of goods, if less skilled help filled her batteries, should be able to operate over 40 looms. Weaving costs, which are a high percentage of the total labor cost, could be materially reduced by letting the highly skilled weavers do nothing but weave, and supplying less skilled help for filling the batteries, cleaning the looms and doing work of a similar nature. I know of a mill which, at the present time, is running over 50 looms to the weaver on this basis. Certainly weavers can greatly stabilize their jobs by co-operating on a radical change like this in reducing the cost of weaving goods.

"All the processes in the mill are capable of study along these lines, as I will try to point out when we come to the point of management. The operatives' part in this is to be willing to try, to work and to help, with the sole idea of reducing the labor cost in production a pound of goods.

"The operatives may reduce the cost of goods largely by helping the mill to reduce the expense incurred through waste and 'seconds.' Probably no better method of illustrating this can be derived than by inserting at this point a copyrighted list of figures compiled by Ralph E. Loper & Co., cost engineers of Fall River, and used here by permission.

**Some Leaks.**

"'(This is a conservative statement of what may actually happen in mills making a profit of one-eighth cent per yard of cloth. Many mills made much less during 1921 and 1922.)

"'When the firemen save one wheelbarrow of coal the mill gains the profit on 14 cuts of cloth.

"'When a weaver makes one cut of seconds the mill loses the profit on four cuts of cloth.

"'One dead spindle in the card room costs the mill the profit on from two to six cuts of cloth.

"'Each pound of white waste put into sweepings costs the mill the profit on four cuts of cloth.

"'When a draw fram roll is spoiled, the mill loses the profit on six cuts of cloth.

"'Redrawing one warp costs the mill the profit on 15 cuts of cloth. When a shuttle is broken the mill loses the profit on 15 cuts of cloth.

"'The spoiling of one reed costs the mill the profit on 25 cuts of cloth.

"'In a 1,000 spindle mill:

"'When spooler boxes continually contain one pound less than the standard amount of yarn, the mill loses the profit on two bales of cloth each week.

"'When the cuts average one yard short of standard the mill loses the profit on 19 bales of cloth each week.

"'In the spinning room the stoppage of an entire alley for doffing costs the mill the profit on 30 bales of cloth per week.

"'An average loss of five minutes per day through tardiness, "washing up" early, etc., costs the mill the profit on 40 bales of cloth weekly.

"'When the cloth folders measure 36⅛ inches for a yard, the mill loses the profit on 50 bales of cloth each week.

"'When the cloth is apparently of correct weight as baled, but the moisture content is 1 per cent below normal the loss amounts to the profit on 50 bales of cloth weekly.

"'When yarns average a half number heavy in a print cloth mill it costs the profit on 75 bales of cloth weekly.

"'If through the co-operation of the overseers and empyloes the 40 bales of cloth weekly.

"'A 7 per cent increase in production will reduce the manufacturing cost by one cent per pound on print cloth. One cent per pound of cloth will pay for all the bobbins, shuttles, reeds, harnesses, starch, teaming, oil, belting, and roll covering required by the mill.'

"Can any one doubt, after reading this list, the tremendous part that the help can play in reducing the cost of manufacture?

"Now comes the question of wages. All other schemes should be tried before wages are reduced. Northern workers should have higher wages than Southern workers. They have very much higher expenses and always will have. I do not think we can ever look for an absolute equalization on this point. New England must pay higher wages and make the difference up in some other way. How much higher the wages must be is something which will have to be determined, but Northern wages must be reduced to a point where, with all other economies and efficiencies taken into consideration, mills can operate on a competitive basis to assure the worker a full year's pay.

**Co-operation of Management.**

"It will do no good for the worker to do his share unless the management co-operates to the fullest extent. There is a great deal that the management can do. Probably the most obvious thing today that the management can do in reducing labor costs is, first, to make careful studies as to the machine operations to determine that the job is running as well as it can possibly run and that speeds are set for the absolute maximum production. I do not mean to just take this for granted, but to absolutely determine these features as facts. After this is done, management must study each job to determine: First, the maximum amount of help required to operate that job; second, the grade of labor necessary to operate that job. I can best illustrate what I mean by the weaving operation. On ordinary print cloths, a weaver spends, roughly, 28 per cent of her time in weaving, 45 per cent of her time in filling batteries and 27 per cent of the time in resting and miscellaneous work. An ordinary weaving job has 10 sides. We know of one mill today where the spinners are running 50 sides apiece, while less skilled help is doing the cleaning and creeling. The production is just as good as it was when the spinners were running 10 sides.

"Every job in the mill is subject to an analysis of the above description, and nobody knows the results that may be obtained, or the reduction which may be made in the labor cost, of producing a pound of cotton goods.

**Tax Burden Great.**

"The tax burden on New England mills is great. It is probably safe to say that the average mill in Fall River pays a tax 50 per cent greater than the average mill in the South. If New England wants to assist its textile industry it is necessary for the citizens to insist that New England mills be relieved of this bur-

(Continued on Page 28)

# SOUTHERN TEXTILE BULLETIN

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### Who's Who Suspended Temporarily.

AS our editor, David Clark, will spend most of this month in Massachusetts, and he personally writes the "Who's Who Among Textile Salesmen" sketches, they will not appear until his return.

These sketches are doing much to make the traveling men better known to the mills and have been very generally commended.

As a substitute for the "Who's Who" sketches we are publishing Mr. Clark's descriptions of the textile machine shops and we believe they will be found interesting.

### An Unfortunate Cotton Decline.

IT is considered unfortunate that the decline in cotton, although small and probably temporary, should come at this time.

The buyers of cotton goods are flocking to New York and a stable or advancing cotton market would have given them confidence whereas a weak and unsettled market will cause them to withhold or reduce orders.

The same condition existed when the buyers went to New York last August, for cotton was at that time 22 cents, and many were predicting 17 cents, and the same buyers withheld their orders and had to pay higher prices later.

Now they are withholding them upon the theory that prospects of a large crop for 1924 will cause lower cotton prices.

The idea of the large 1924 crop is going to be worked to its limit but the chance for a 1924 crop that will furnish a surplus of cotton is so very remote that we believe the buyers are going to miss their guess.

Should any bad weather result during the growing season, there will be a rush to buy goods for next season at much advanced prices. One of the New York papers said last Saturday:

**"About one thing there appears to be no doubt whatever. This is the need of goods on the part of retailers almost everywhere. The rule, however, seems to be to buy in small lots. Even at that, the sum total of the buying is beginning to loom up rather large."**

In our opinion the cotton mills should not worry but really rejoice over the present situation.

The buyers are going to hold back orders and force a curtailment now that would certainly result before next September as a result of the shortage of cotton.

If they bought now the mills would continue to operate on a no profit basis as they have been doing for the past few months.

By curtailing now and allowing the stock of goods to be reduced to a low point we will be able to sell goods at a profit and the total profits for the year will more than make up the present curtailment losses.

The cotton supply situation is no better, in fact, is much worse, than it has been.

Brazil has had a crop failure and recent rains have reduced the India crop to much less than last year's outcome.

Exports of American cotton are more than 500,000 bales ahead of last year and American consumption only slightly less than last season.

The most bullish factor is that takings by American mills are 650,000 less than last year. Cotton that has been bought is not a bullish factor until a tight supply place has been reached, but the 650,000 bales that have not been taken represent 650,000 bales to be bought and that fact is bullish.

Retail trade is buying cotton goods steadily and there is absolutely no evidence of any buyers' strike.

The jobbers and converters are fighting prices by withholding orders for the goods they must have.

In our opinion they are playing a game that will ultimately result in a profitable period for the mills.

### No Unions in the Textile Machinery Shops.

WE have had the erroneous idea that the shops of the various New England manufacturers of textile machinery were closely unionized and were all tightly closed shops.

Thos. Failure McMahon and the other professional agitators certainly left that impression in their talks to Southern mill operatives, but we now find it to be untrue.

Our editor has visited a number of the shops within the past two weeks and found none of them unionized.

It is true that some of them were formerly unionized but the machinists found that they were paying dues in order that a lot of parasites might live in idleness and the men who manufacture textile machinery today are, almost without exception, non-union men.

As a matter of fact, there has been an enormous loss in membership by the unions of New England and that explains to some extent the desire of the agitators to get a foothold in the South. New England will no longer support them, and having no inclination to work, they dream of living on dues paid by Southern cotton mill operatives.

### What a Want Ad Showed.

IN our Want Department last week, we published an advertisement for a mill that is seeking an expert fancy weaver and designer for fine goods. We have already received a very large number of replies to the advertisement and feel sure that the mill in question will be able to secure a competent man within a very short time.

The significance of this incident is not that so many men answered a want ad in our paper. Our want columns have been producing such excellent results for so many years that there is no need for comment upon the fact.

The real point is this: Not so many years back, a similar advertisement would have resulted in only a very limited number of replies for the simple reason that there were comparatively few men in the South who were competent to handle the job. There were plenty of excellent weavers to handle the coarse goods mills, but only a very limited number who were experienced in designing and weaving fine goods.

Within the past few years, however, as more and more mills in the South have gone into the production of fine goods, superintendents and overseers have become experienced to handle the finer fabrics. At present a number of Southern mills are producing goods that are equally as good in every respect as the finest fabrics made in New England. There is further, a marked tendency for more mills to make fine goods and we believe that in the next few years, the increase in production of fine goods in the South is going to be the most important development in the textile industry.

Not only are Southern mill men going to make more fine goods, but they are also realizing the enormous advantage of finishing their own products. The increase in the South's finishing equipment during the past two years has been very marked and we confidently expect a continuous expansion in this direction.

The old cry that the Southern mills will always confine themselves to the manufacture of coarse goods has about died out. Occasionally it is heard, but not often. It is pretty hard to say that the South cannot do something it is already doing. No one can look upon the goods made by the fine weaving plants in the South and assert that the South will be forced to stick to coarse goods. A sample from Dunean, or Judson or Altavista is as effective a contradiction as we know of.

The advertisement mentioned above is certainly one of the straws which indicate which way the wind is blowing.

### To Enlarge Textile School.

Plans for enlarging the Textile School of North Carolina State College at Raleigh were discussed at a conference held last week in Charlotte by Dr. E. C. Brooks, president of the college, Prof. Thomas Nelson, head of the textile department, and a number of mill men who are trustees of the college. The latter included Paschal Boyd, superintendent of the Mooresville Cotton Mills; C. D. Welch, general manager of the Cramerton Mills, Arthur Dixon, president of the Dixon Mills, M. Hendrick, superintendent of the Cliffside Mills, and S. B. Alexander, Southern representative of the Crompton & Knowles Loom Works.

At the last session of the Legislature, State College was appropriated $3,500,000 for enlargements and improvements and a part of this fund will be used to enlarge the present textile building. The conference here was held to consider the requirements of the most modern type of textile equipment and in order for the mill men present to make recommendations to the building committee of the college concerning the needs of the textile department.

Dr. Brooks stated that it is the plan of the college authorities to make this textile school the leading school of its kind in the country. In point of attendance the college already leads all others in America and Dr. Brooks stated that the improvements contemplated would give the State a textile school in keeping with the growth of the industry in North Carolina.

# Personal News

J. D. Hale has resigned as overseer of spinning at the Calhoun Yarn Mills, Calhoun, Ga.

W. R. Epps has been promoted to night overseer spinning at the Calhoun Yarn Mills, Calhoun, Ga.

G. H. Blankenship is now superintendent of the Grace Cotton Mills, Rutherfordton, N. C.

J. C. Ellis has become overseer of spinning at the Grace Cotton Mills, Rutherfordton, N. C.

C. J. Moss has resigned as overseer of weaving at Gaffney Manufacturing Company, Gaffney, S. C.

H. E. Sullivan, of Fairmont, S. C., has accepted the position of overseer of weaving at Gaffney Manufacturing Company, Gaffney, S. C.

D. W. Threlkeld has been promoted from night overseer to day overseer of spinning at the Calhoun (Ga.) Yarn Mills.

F. L. Crowley has been promoted from overseer of spinning to superintendent of the Hermitage Cotton Mills, Camden, S. C.

M. M. Busley has resigned as second hand in carding at the Profile Mills, Jacksonville, Ala., to become overseer carding at the Adelaide Mills, Anniston, Ala.

A. S. Dalton has resigned as second hand in weave Room No. 2 at the Gainesville Cotton Mills, Gainesville, Ga. His help presented a gold ring as a token of esteem.

David Clark, editor of the Southern Textile Bulletin, who has been in New England since the first of the year, expects to return about February 1.

O. A. Sullivan, overseer of carding at Gaffney Manufacturing Company, Gaffney, S. C., has been promoted to assistant superintendent but retains his position as carder also.

Deaver Little, who has been superintendent of the Republic Mills, Great Falls, S. C., since its organization in 1901, has resigned that position. He has not announced his future plans.

Robert S. Mebane, Jr., has been appointed superintendent of the Republic Mills, Great Falls, S. C. He is a son of R. S. Mebane, president of the mills, and has been assistant superintendent for some time.

Wyllys H. Taylor has been appointed superintendent of the new weaving plant of the Republic Mills, Great Falls, S. C. He has been with the company as resident engineer in charge of new construction for some years.

Wm. P. Lee, who recently resigned as superintendent of the China Grove Cotton Mills, China Grove, N. C., on account of ill health, has been undergoing treatment at the Mercy General Hospital in Charlotte and will remain there for two weeks longer.

### Death of John L. Rodgers.

John L. Rodgers died at his home in Toccoa, Ga., January 11. Funeral was held at his home Saturday afternoon at 3 o'clock, interment in Toccoa cemetery.

Mr. Rodgers was overseer of weaving at Toccoa Mills when he was taken sick. He was well known through the Piedmont section, having been at one time overseer of weaving in Anderson Mill, Anderson, S. C., Bamberg Mill, Bamberg, S. C., and several mills in Georgia.

He leaves two daughters, three sons, father, three sisters and one brother.

### 9,807,138 Bales Ginned.

Washington, Jan. 9.—Cotton ginned prior to January 1 totalled 9,807,138 running bales, including 234,723 round bales counted as half bales, 18,639 bales of American-Egyptian and 776 bales of Sea Island, compared with 9,597,330 running bales, including 166,072 round bales, 28,948 bales of American-Egyptian and 5,069 bales of sea island ginned to January 1, last year, the Census Bureau announced today.

Ginning to January 1, this year, by States, were:

Alabama, 594,703; Arizona, 2,371; Arkansas, 608,239; California, 39,765; Florida, 13,459; Georgia, 606,754; Missouri, 103,103; North Carolina, 1,016,308; Oklahoma, 622,034; South Carolina, 781,541; Tennessee, 211,416; Texas, 4,084,733; Virginia, 46,447; all other States, 26,208. The revised total of cotton ginned this season to December 14 was announced as 9,554,177 running bales. There were 15,169 ginneries operated prior to December.

### November Cotton Consumption.

Washington, Jan. 15.—Cotton consumed during December totalled 461,560 bales of lint and 40,892 of linters, compared with 531,631 of lint and 48,069 of linters in November last year and 529,342 of lint and 49,143 of linters in December, 1922, the Census Bureau announced today.

Cotton on hand December 31 was held as follows:

In consuming establishments 1,623,453 bales of lint and 112,949 of linters, compared with 1,438,813 of lint and 95,851 of linters on November 30 last year and 1,917,231 of lint and 123,215 of linters on December 31, 1922.

In public storage and at compresses 3,526,164 bales of lint and 64,232 of linters compared with 3,770,542 of lint and 43,669 of linters on November 30 last year and 4,069,470 of lint and 38,445 of linters on December 31, 1922.

Imports during December totalled 35,601 bales, compared with 16,564 in

Cotton spindles active during December totalled 34,044,870 compared with 34,101,452 in November last year and 34,976,103 in December, 1922.

# MILL NEWS ITEMS OF INTEREST

**Camden, S. C.**—The Wateree Mills will rebuild the large community store which was completely destroyed by fire last week.

**Alexander City, Ala.**—The Avondale Mills have completed installation of a number of special looms for the manufacture of automobile top fabrics.

**Raleigh, N. C.**—The Textile School of the North Carolina State College will be greatly enlarged, it is announced by Thomas Nelson, head of the textile department.

**Sand Springs, Okla.**—The product of the new Sand Springs Cotton Mills will be sold through Converse & Co., of New York. The mill has 25,200 spindles and 500 looms and makes a full line of wide sheetings, sheets and pillow cases in the gray.

**Macon, Ga.**—At the regular quarterly meeting of the board of directors of the Bibb Manufacturing Company, the board authorized the payment of a dividend of $2 per share on both common and preferred stock of the company, payable April 1.

**Charlotte, N. C.** — The Southern Power Company will erect a new hydro-electric generating plant at Rhodhiss, N. C., with a generating capacity of 40,000 horsepower, and a new steam plant at Duncan, S. C., near Spartanburg, to generate 40,000 horsepower. The two plants will cost approximately $5,000.

**Wadesboro, N. C.**—The Wade Manufacturing Company, the new cotton mill here is expected to begin operations in the spring, the buildings being virtually completed. T. C. Coxe is president and I. B. Covington, formerly superintendent of the Florence Mills, Forest City, is superintendent and manager.

**Landrum, S. C.**—The Appalache Hosiery Mills has finished the installation of its equipment and is ready to begin operations. It has 160 knitting machines and will manufacture high grade hose and half hose. Joseph Lee, formerly of the Blue Ridge Hosiery Mill, is president; B. F. Owen, secretary, and J. D. Mobley, superintendent.

**Newton, N. C.**—The court has confirmed the sale of the Newton Asbestos Yarn Mill to Julius W. Abernethy and a new company, the Fiber Manufacturing Company, has been incorporated to take over and operate the plant. The mill, which was very successfully operated for a number of years. Its affairs, however, became involved in the financial troubles of the Norwood interests who owned 50 per cent of the stock. Officers of the Fiber Manufacturing Company are Julius W. Abernethy, president and active manager; Sid J. Smyre, vice-president, and W. B. Gaither, secretary and treasurer.



**Murfreesboro, N. C.**—The Murfreesboro Knitting Mill, incorporated last week, as noted, has already purchased machinery and expect to have the plant in operation in about 30 days. It is equipped for a monthly capacity of 1,800 dozen silk hose. J. A. Campbell is president and treasurer; E. T. Vinson, vice-president, and W. H. Sanders, secretary.

**Millen, Ga.**—The Western Reserve Cotton Mills Company's local plant, which has been idle for more than six months, will resume operations at once, according to an announcement received here from the home office at Quitman. It is expected that the mill will operate on day and night shifts and will require at least 300 employees to keep it going at full capacity.

**Great Falls, S. C.**—Deaver Little has resigned as superintendent of the Great Falls Manufacturing Company and will be succeeded by R. S. Mebane, Jr., son of. R. S. Mebane, president of the company. Capt. Wyllys H. Taylor, who since 1919 has been resident engineer in charge of the construction of the new mill, has been appointed superintendent of the new weave mill known as Republic Mills No. 3, a plant of 1,000 looms.

**Rutherfordton, N. C.**—The controlling interest in the Grace Cotton Mills Company has been purchased by the Tanner interests of Rutherfordton and Spindale, from J. H. Mayes and I. C. Triplett, of Charlotte, and B. J. Dobbins, of Ranlo, who previously held controlling interest. Mr. Mayes was president and treasurer of the company and Mr. Dobbins was general superintendent.

The Grace Mills is comparatively a new mill, having been built three years ago by B. J. Dobbins. Mr. Dobbins will sever his connection with the mill, but will continue as general superintendent of the Rex Spinning Company, of Ranlo, N. C.

**Charlotte, N. C.**—Frank H. Kennedy, receiver for the Belbro Mills, Inc., is offering the mill property at public sale in the court house at Charlotte on January 21. The property consists of textile machinery, building, and real estate.

The property was offered at public sale in December but a satisfactory bid was not received for the mill building, site, and equipment. Bid for tenant houses and site received at that time was accepted. The total of the bids received at the previous offering was less than the mortgage indebtedness on the mill, which amounts to about $60,000. The mill property has been valued at about $75,000.

**Greenville, S. C.**—Operations at the Southern Worsted Corporation, near here, the first mill of its kind in the South, will be begun February 1. The mill will have an initial equipment of 6,000 spindles and 120 looms and will manufacture worst-

eds, the value of the weekly product being estimated at $50,000. The plant includes a dyeing and finishing department. Combed wool only will be purchased at the outset, the mill having no carding and combing equipment.

B. E. Geer, of Greenville, is president of the Southern Worsted Corporation; J. F. Syme, vice-president and local manager; F. A. Fleish, of New York, second vice-president, and A. M. Patterson, also of New York, treasurer.

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**Greenville, S. C.**—The Southern Bleachery, located at Taylors, near here, expects to begin installation of machinery this week, the buildings being practically completed. The plant will have a monthly capacity of 6,000,000 yards of cloth and will employ 175 operatives, and will likely be in operation within the next three months. Harry R. Stephenson is president and Harry R. Stephenson, Jr., superintendent.

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**Lawrenceville, Ga.**—The Lawrenceville Mills, a branch of the Barrow County Cotton Mills, of Winder, Ga., will erect an addition to their plant here, as noted, and install 200 looms. The improvements will also include the erection of an electric power plant. Park A. Dallis, of Atlanta, is the architect-engineer.

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**Lynchburg, Va.**—Allen S. Johnson, vice-president of the Consolidated Textile Corporation, Lynchburg branch, has announced a curtailment of production in the local plant to four days a week. The curtailment is now in effect. In connection with the announcement. Mr. Johnson stated he believed the curtailment would only be temporary and that by February 1 he hoped the local mills would be working again on full time.

The curtailment was ordered because of the sluggishness in the cotton market.

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**New England Curtailment.**

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Providence, R. I.—Eight of the ten Rhode Island mills of the B. B. and R. Knight Company went on a three-day-week schedule last week for an indefinite period and the other two plants will be operated on the same basis, beginning January 21, according to an announcement made by the Rhode Island Textile Association. The mills in which notices of an indefinite period of short time were posted are: Arctic, Centreville, Grant, of this city, Nottingham, Pontiac, Royal, Valley Queen and White Rock. The Natick Mills, Natick, and the Clinton Mills at Woonsocket will operate three days a week after January 21.

A statement issued by the Textile Association says: "Other Rhode Island plants on short time include the Ashton and Berkeley Mills of the Goddard Bros., operating three days a week, and the Ann and Hope Mills, running four days. The Hope Webbing Company of Pawtucket and the Harris and Arkwright Mills of the Interlaken Company are on a five-day-a-week schedule and the Warren Manufacturing Company, four. Within two weeks the Slater Yarn Company of Pawtucket believes it will be compelled to reduce its schedule to four days a week.

"Curtailment is already more or less general throughout New England in the cotton manufacturing business. In Maine a number of the plants including the York Manufacturing Company at Saco, Bates & Androscoggin at Lewiston and the Edwards Manufacturing Company at Augusta are operating from three days to full time. In New Hampshire, some of the departments of the Nashua Manufacturing Company of Nashua will close Thursday for an indefinite period and the Cocheco department of the Pacific Mills at Dover is closed.

"In Massachusetts, the Pacific Print Works at Lawrence began a four-day week schedule. The Ipswich Mills at Ipswich and the Merrimack at Lowell are operating at 50 per cent of capacity. Fall River print cloth mills are running at from 50 to 75 per cent capacity and the New Bedford yarn mills are doing about the same.

"More curtailment is expected because of the fact that many of the mills, including a number of those in Rhode Island, are piling up goods and awaiting a change in the situation. Large stocks are already in the mill storehouses awaiting orders. The finishing plants also have an unusually large stock on hand awaiting orders from the converters. This situation has been brought about by the unwillingness of the trade to buy, even at prices based on cotton purchased at a cost much lower than the present price of the raw material. Many of the Rhode Island mills have not been able to sell their full product for four or five months past.

## Possibilities In New Cotton Areas.

(Continued from Page 8)

of this colony and Kenya, but cotton has done the lion's share of the work in making this grant needless and non-existent. Uganda, besides supporting herself and bidding fair to make a handsome revenue in the near future, is turning out the best quality cotton of any of these new fields, reaching up to 1¼ inch length, and its crop of between 50,000 and 60,000 bales totals a value of $4,000,000. Here practically the only drawback is the enlistment of labor, and high intelligence has its handicap for the prospector, since the native prefers to grow for himself and cannot be tempted to work on plantations for a fixed wage, so long as his wife and family can help him to run his own garden and bring him a quite satisfactory profit. Here there is no land difficulty, for the Government willingly makes grants, and the man who can coax the native to come and work and stay under him, is assured of good results. Even the native industry with all the old habit and unmodernized experience progresses by an increase of 20 per cent a year, and with improved lake and rail transport new districts are opening up.

Here it may be said that there is a distinct opening for capital, since every African railway can be made to pay, if only because of the boundless fertility everywhere. There is general satisfaction that the railway from the head of the Victoria Nyanza to Nakuru en route for Mombasa is at last to be completed and to be extended beyond Turbo to Jinja where the Nile issues from the lake. Known as the Uasin Gishu line, with a northward curve towards the foot of Mount Elgon, it passes through Eldoret and Turko and Tororo. Indeed it would be a thousand pities if either of these places should have remained the railhead if only for a term of years, because of the way in which traffic would have been limited, by reason of the undeveloped state of this part of the country. European population and closer settlement are ultimately inevitable, together with the material expansion they involve, and there is every encouragement from the government and existing landowners, but the arrest of a promising line at these unimportant points would have delayed things unduly. Beyond, where the extension is to be tackled, lie the closely populated areas of North Kavirondo, with cotton potentialities and traffic already waiting, or rather demands for the same, with a considerable and increasing production. Sir Robert Coryndon and Sir Geoffrey Archer, the local administrators, are doing their utmost to restore Lake Victoria to its pre-war importance so as to occupy its fleet of steamers and boats, and release it from the necessity of hauling and transshipping the produce of Uganda via the eastward port of Kisumu. The result when completed will be a real Uganda railway which, after traversing Kenya (probably in a couple of years' time) should mean bridging the Nile and carrying the railway on to the northwest and the Soudan border with the advantage possibly of power drawn from the Ripon Falls. The estimate for Uganda has hitherto been half a million bales at no distant date, but with these facilities well within view, the figures mount easily without any exaggeration.

Nyasaland, with a population of a million and a quarter, works mainly on the dual system, partly by planters and partly by natives working on their own account, though this latter section was left at a standstill during the war because the natives were busy and better paid elsewhere. There is a railway down to the Zambesi which is being supplemented by another to the east coast seaport of Beira, and a new one is promised to the south of Lake Nyasa so as to tap the resources of northeast Rhodesia. The country is limited in extent, and cotton cultivation must be the same, but it should yield a hundred thousand bales almost as good as that of Uganda. Rhodesia, by hte way, has hitherto suffered from pests and labor shortage, but now that it has gained its own constitution, and resisted the blandishment of General Smuts to join the South African Union, it should do well, for it is a white man's country, and when its transport improves, and it gets its three million loan, theree should be far better results than have ever been obtained by the old Chartered Company, now superseded.

But all these prospects are exceeded in the case of the Soudan, which with a population of three and a half millions and an area of over a million square miles, already is justifying the prophecies of its former governor, Lord Kitchener, that it is destined to be one of the chief gardens of Africa. Its people are scattered and of an independent turn, but they are now contented under practically their own settled government, and so long as the Egyptian agitator leaves them alone they will continue to prosper under the beneficent wing of Father Nile. The dam under construction at Sennar, on the Blue branch of the river, will extend the rich province of the Ghezira, a vast plain between both Blue and White Niles just south of Khartoum. This will mean something like three hundred thousand acres under cotton, and when the full scheme is completed more like two million acres, all of the best and most fertile quality for the purpose.

Two farms have been established —one at Barakat of about 6,000 acres, and one at Taylba of about 6,000 acres. A further farm is being started at Hag-Abdulla of about 6,000 acres. About 7,000 bales of excellent cotton are obtained per year, and this quantity will increase rapidly as the water becomes available. The current Kitchener scheme with good wages for the natives, is as follows: The proceeds of the crop are "pooled," and the government which supplies the land and the water gets thirty-five per cent; the Sudan Plantations Syndicate, which undertakes the entire management, does the minor canalization, ploughs the land, directs the cultivation, does the ginning, finances and markets the crop, receives 25 per cent, and the native who does the cultivation gets the remaining forty per cent. At Tokar, seventeen miles

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**Removal of Mills to South Indicates Serious Situation.**

(Continued from Page 21)

den, in one of the large textile centers of New England, taxes today are approximately 75 per cent of the annual dividends which the mills have averaged since they were built.

"The machinery manufacturers must give consideration to every device put out which will reduce labor costs. They must use all their ingenuity to devise means either of reducing the operatives per machine or of increasing the pounds per operative. While the textile industry is very highly developed, machinery principles of manufacture have not been changed for years. New England will be benefited tremendously by further developments along the lines of the Draper loom and the Barber-Colman warp tieing machine. There is little question that the textile machinery concerns can and will make great progress in labor saving devices.

"No matter how economically a mill manufactures goods, it cannot be successful unless the goods are properly merchandised. The commission houses handling New England mill accounts can help tremendously by the proper styling of the mills and a much more intensive study of the markets and consumption of the various classes of merchandise than heretofore has been necessary. This is a very real need, and if properly carried out, as it is being done by some commission houses today, would materially assist the New England mills in their present difficulties.

"A great many New England manufacturers with whom you talk will tell you that New England has suffered from Southern competition before and has always come out on top and that something will happen which will put New England on a satisfactory competitive basis again. It is difficult to say just what they expect to happen, but it certainly will not happen unless they adopt a progressive attitude and work day and night to put New England again on a competitive basis."

**World Cotton Crop 17,647,000 Bales.**

Washington. — More detailed and revised estimates of the world raw cotton situation, based on additional data received from commercial representatives abroad and from other sources, have been compiled by the Department of Commerce as supplements to its preliminary statement issued last September. The department's reports follow:

The production of cotton in the United States in 1922-23 amounted to 9,762,000 bales, an increase of 1,800,000 bales, or 23 per cent over that of 1921-22. The production in the United States during the past five years was as follows: 1918, 12,041,000 bales; 1919, 11,421,000; 1920, 13,440,000; 1921, 7,954,000, and 1922, 9,762,000.

The world commercial production of all kinds of cotton, including American, in 1922-23 is estimated at 17,647,000 bales—an increase of 2,963,000 bales, or 20 per cent over that of 1921-22. The actual crop amounted to 18,695,000 bales in 1922-

23, compared with 15,326,000 in 1921-22.

World consumption of American cotton during the season of 1922-23 is estimated at about 12,548,000 bales, or slightly above the 1921-22 consumption. World consumption of all kinds, including American, is estimated at 21,041,000 bales, or about 1,000,000 bales, or 5 per cent greater than that of last season.

### Hosiery Produced in November.

There was a total of 4,534,720 dozen pairs of hosiery of all classes manufactured during November, 1923, according to statstics made public by the Bureau of Census, U. S. Department of Commerce, showing hosiery production of 305 establishments representing 392 mills.

Of the total amount manufactured, there were 80,163 dozen pairs of men's full fashioned, 1,759,813 dozen pairs of men's seamless. 557,-206 dozen pairs of women's full fashioned, 1,079,810 dozen pairs women's seamless, 502,271 dozen pairs boys' and misses' of all styles, 532,-485 dozen pairs children's and infants of all styles and 22,973 dozen pairs athletic and sports of all styles.

Shipments during the month were 3,900,857 dozen pairs and the finished product on hand at the end of the month, 7,611,107 dozen pairs. Orders were booked during the month for 4,516,076 dozen pairs, while cancellations received total 279,877 dozen pairs and unfilled orders on hand at the end of the month numbered 10,-010,841 dozen pairs.

### "Cotton in North Brazil."

The International Cotton Federation has recently issued to its members and to the public, "Cotton in North Brazil," which is the continuation of "Brazilian Cotton," published two years ago as the outcome of the visits of Arno S. Pearse, the general secretary, to that country. The favor of a review of "Cotton in North Brazil" will be much appreciated.

In vew of the world's shortage of cotton, this book appears at an opportune time and ought to be of general public interest. A preface to "Cotton in North Brazil" has been written by Dr. Miguel Calmon, Minister of Agriculture of the Brazilian Federal Government.

The volume deals particularly with cotton conditions in the States of Ceara, Maranhao and Para, and contains also a synopsis of the colton potentialities of the whole of Brazil. Most people are looking to this country for relief from the cotton famine which is threatening the industry, and although labor conditions may not entitle us to expect an immediate increase of millions of bales, yet, with proper organization — especially as regards seed supply—it is anticipated that Brazil may furnish, during the next few years, a cotton crop of two million bales against her present output of 750,000 bales. The high yield per acre, the low rates of wages and the cheap cost of land are important factors which will contribute towards making cotton one of the principal products of export from Mrazil. There is no boll weevil in the country and the cost of production works out at from 6d to 8d per pound against the present price of 20d of American cotton.

There is no doubt that certain parts of Brazil offer excellent prospects for cotton growing on a commercial basis.

### Edward Farnham Greene visits South Carolina Mills.

Greenville, S. C.—Edward Farnham Greene, president and treasurer of Lockwood, Greene & Co., New England textile engineers and mill operators, spent Friday in Greenville conferring with executives of the company in this section on matters of routine business.

The well-known textile magnate has just completed a tour of inspection of the South Carolina holdings of Lockwood, Greene & Co. and reported that he was very much pleased with the progress which their mills are making and that he is optimistic as to their future.

The New England firm are owners of the Pacific Mills at Columbia, the $9,000,000 Pelzer Mill plant at Pelzer, and the Tucapau Mills in Spartanburg county. The new $5,000.000 bleachery, now under construction at Lyman, near here, is also the property of the Lockwood, Greene & Co.

Mr. Greene denied reports to the effect that his visit here was significant of expansion of the company's South Carolina plants.

**Possibilities of New Cotton Acreage.**

(Continued from Page 27)

from Trinkitat, on the Red Sea, about 43,000 acres are flooded annually by the River Baraka over a delta varying in extent from 80,000 to 160,000 acres each year. The land belongs to the government. There also is a slight rainfall of about six inches. Unless some scheme of irrigation is devised for the control and distribution of the Baraka waters, cotton growing at Tokar is limited to about 20,000 to 28,000 bales each year, not all of excellent quality.

At Kassala there is a similar proposition, so far as irrigation is concerned, to that at Tokar, but a much larger one. The River Gash, as a result of summer rains in the Abyssinian hills, comes down with a much greater volume of water than the Baraka, and irrigates a quarter of a million acres of excellent cotton land. The only drawback is the absence of transport. At present the cotton is carried to Suakim, a distance of 250 miles by camel, and transport is limited by the number of camels available. The only solution, therefore, is a railway connecting Kassala with the present Berber-Port Sudan line at Thamian, for about two million sterling, and failing imperial funds public enterprise may step in and do the work.

India, which would demand separate and extensive treatment to be considered properly, is a country to which Mr. Himbury has given close and atentive study from the cotton trade point of view. Her twenty million cotton acres at ninety-seven pounds of lint per acre, or a total annual yield of nearly five million bales, make her the chief exhibit in the British empire's window, you may say; but she consumes internally more than half her total crop, and of her export, of course, the bulk goes to Japan, her best customer, to the tune of a million and a half bales, most of which is short in the staple and of little use elsewhere. In considering the remainder—and of the million and a half bales of larger counts, only 200,000 come to England—it is useful to remember that it is all confined to four areas—the Punjab, Madras, the United Provinces, and the Bombay presidency, including Sind. Mr. Himbury speaks in glowing terms of the magnificent irrigation canals resulting from British rule in the last eighty years, and these, both perennial and inundation, yield respectively 10 and 17 per cent on gross expenditure, though, of course, the crops on the former or barrage system make the land twice as valuable as the other. The Punjab areas have improved enormously under the control of Prof. David Milne, the principal of the Agricultural College at Lyallpur, with its farm of eight hundred acres, where the Punjab-American variety of cotton was first produced—a staple of one inch, known as 4 F, yielding as much as a thousand pounds of seed cotton to the acre. The Bombay areas yield good hybrids comparable to American one-inch, and when the Sukker Barrage scheme for holding up the waters of the Indus is completed Sind State will be enriched by nsome five and a half millio acres of growing country, one million of which will qualify for cotton of the best American type. Madras is good for 150,000 bales of Cambodia, and a lower quantity of the type known as Tinnevelley; while the Nilgiri hills on their lower elevation are equal to producing 266 pounds of lint to the acre, superior in quality to the Cambodia, and capable of spinning 305 and 605; added to which, irrigation works are afoot which will considerably increase this growing capacity.

On the general question of India as a future field, Mr. Himbury is sanguine in spite of the short growing season and the difficulty of producing a longer staple under such conditions. There is, besides, the tendency of the native to fall back on short staple stuff as causing less trouble and risk and yielding him a safe profit on lines with which he is already familiar. But, as he says, the finer qualities are worth encouraging and working for, because the mater is a world question. He says he is convinced that India can and will produce large quantities of cotton of 1 1-16 inch to 1⅛ inch, the most promising areas being the Punjab and Sind. What is required to get the cotton is continued experiments by experts to produce still more prolific and yet early maturing cottons; further, to be in a position to deal with pests and disease as they arise, for it has generally been found that exotic types are less immune than the indigenous types. The grower should receive a price more in accord with the value of his better produce, and some

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### The Fly Frame.

(Continued from Page 14)

**Production.**

In figuring production of fly frames we should figure from two angles: First, actual production; second, theoretical production. The actual production of fly frames is figured from the hank roving, the number of spindles and the number of hanks run as indicated by the hank clocks. The rule for this work is as follows: Divide number of spindles on one frame by hank roving being run. Multiply this result by the total unmber of hanks. Result is number of pounds produced.

Example: Ten fly frames having 160 spindles each are running six hank roving. The total hanks run in one day of 10 hours is 75. What is the production in pounds? Solution: 160 divided by six is 26.66. Then 26.26 times 75 is 1,999.5 or 2,000 pounds. In this way we get accurate results as to the production, but we cannot tell what per cent production we are getting. To get to this point we have to find the theoretical production.

There are two general methods by which we can figure theoretical production. First, by basing our calculation on speed of spindles and the twist in the roving. Second, by basing our calculation on the front roll speed and diameter.

Using the first method we have the following rule for finding the theoretical production. Rule: Multiply the spindle speed, times minutes per day of 10 hours (600), times yards per hank, times hank roving. Result gives pounds theoretical production per day of 10 hours for one frame.

Example: Ten frames having 160 spindles each are running six hank roving. The spindle speed is 1,000 r. p. m., the twist per inch is 2.92 turns. What is the theoretical production for a day of 10 hours? Solution

$$\frac{1{,}200 \times 600 \times 160}{2.92 \times 36 \times 840 \times 6}$$

which is 217.28, the theoretical production for one frame. 217.28 x 20, which is 2,172.8 or 2,173 pounds theoretical production for 10 frames for 10 hours.

Now using the second method, based on the front roll speed and diameter, we have thee following rule: Rule: Multiply diameter of front roll times 3.1416, times speed of front roll, times minutes per day of 10 hours (600), times number of spindles per frame, and divide this product by inches per yard (36), times hank roving, times yards per hank (840).

Example: Suppose that in the example given above that the front roll is 1⅛ inches in diameter, and its speed is 116 r. p. m. What will be production of the 10 frames in a day of 10 hours?

Solution?

$$\frac{1⅛ \times 3.1416 \times 116 \times 600 \times 160}{36 \times 6 \times 840}$$

which is 216.86, theoretical production of one from in 10 hours. 216.86 x 10 is 2,168.6 or 2,169 pounds theoretical production for 10 frames for 10 hours. The difference of four pounds in the above two results is due to figures dropped in decimals, and are practically correct.

Now should the 10 frames above referred to have the actual production as illustrated in above example, we would find the percentage of production as follows: Actual production 2,000 pounds; theoretical production 2,173 pounds. Then 2,000 divided by 2,173, which is 92, or 92 per cent. Which shows that the 10 frames lacked eight per cent of running the amount which they should have run, according to the theoretical production. This loss is explained and accounted for in the fact that time was lost in the frame being stopped to doff and to piece up ends that broke down.—A. R. Hill, in Progress.

### High Material Costs Affecting Saxon Artificial Flower Industry.

The Saxon artificial flower industry, supplying artificial flowers and leaves for decoration purposes as distinguished from millinery trimmings, is in a most precarious state as a result of high costs of materials and wages, and lack of orders, according to advices to the Department of Commerce. Foreign forward orders, despite increased values of shipments to date, have fallen off heavily. Profits in the industry are said to be under the ordinary 6 per cent rate of interest, and unless buyers will pay the increased prices demanded, factory owners will be faced with the necessity of closing down their plants or losing money.

### Mexican Market for Foreign Hosiery Limited.

The Mexican market for American hosiery may be said to be limited to the upper classes, who of course are in the minority. In silk hosiery, American products fill the need for for high-grade hosiery, while the ul high-grade hosiery, while the French and locally-made meet the demand for the cheaper grades. The same applies to cotton hosiery, according to Warren Ullrich, clerk to the commercial attache at Mexico City. The native cotton mills produce something over 1,000,000 dozen pairs of cheap hosiery per year. Hosiery to satisfy the lower classes is always of bright-colored design for men's wear, and usually of net work fronts for women's wear.

### French Artificial Silk Industry Expanding.

French artificial silk mills in general have orders for more than three months ahead, Commercial Attache Chester Lloyd Jones, Paris, informs the Department of Commerce. It is proposed to establish a new organization capitalized at 50,000,000 francs and a plant with a capacity of 3,000 to 4,000 kilos per day, to be completed in 18 months.

**Possibilities of New Cotton Acreage.**

(Continued from Page 30)

effort must be made to prevent the mixing of American and Indian types at the ginnery. At the moment it is openly done with the knowledge that it is harmful in the extreme. Fortunately for cotton growing improvement, thee formation of the Indian Central Cotton Committee is most opportune. It is presided over by the agricultural adviser to the government of India, and agricultural research is provided for largely by grants to provincial agricultural departments for the undertaking of specific investigations beyond all ordinary activities. Finally, the various problems in connection with the production of a larger quantity and of a better staple, whilst difficult, are not incapable of solution, and, if the business is properly tackled, and there are already signs that this is being done, in five years India should produce at least six million bales of cotton, two millions of which should have a staple of 1 1-16 inch to 1⅛ inch, as against the present production of just under five million bales, not quite half a million bales of which come under the higher class.

This practically concludes Mr. Himbury's survey of the British empire's resources, for the West Indies you know better than we do, and Australia is dealt with in detail elsewhere. It only remains to say that Ceylon suffers from too lavish a rainfall to grow cotton with success, the experimental industry already started has not been continued, and the ground has reverted chiefly to rubber, etc. Mesopotamia, or Iraq, still is too busy with its constitutional evolution from a British protectorate to virtual autonomy, and its endeavor to make Turks, Arabs and Jews dwell together in unity, to yield clear results. The "Mespot" government already has carried out satisfactory experiments, which prove that cotton of the Egyptian and long stapled American varieties will do well. The yields on the plots surpassed the average yield in Egypt and America, and the quality was excellent. Mesopotamia undoubtedly offers great promise for the production of good staple cotton. The quantity, however, will largely depend upon the government's future program for population available at the moment irrigation and drainage, and the is not large. At present, it may be possible to produce 120,000 bales on land provided with water from the existing works. The ultimate possibilities of the country with a sound irrigation system are estimated at one million bales annually.

Lancashire already has benefited by all these endeavors of the association to the extent of some 100,000 bales of cotton per year, and finding markets in all the areas concerned, for the natives are spending part of their wages in the purchase of clothing, and cotton print steadily makes its way wherever it enters. The British exchequer also has saved some $3,000,000 a year by the fact that necessity grants for balancing the finances of Nigeria Uganda, Nyassaland and the West Indies are practically no longer needed. Commercially and politically, therefore, the British people have gained, as well as the nativee peoples and their white neighbors, by the building of new railways; and the slight taxes imposed are productive to the extent that they are being expended on new development, cotton included. Upkeep is a heavy burden for the corporation in the way of executive work, staffs, overseas pioneering, establishing and maintaining research stations, education, commercial handling, etc. All this, and the progress already obtained and assured warrants high expectations, if only the enthusiasm of the trade can be preserved on lines of far-sighted enterprise and encouragement.

"I am convinced," said Mr. Himbury, after supplying much of this information, "that the future cotton zone of the British empire may and will lie between the lines drawn about 15 degrees north of the equator and 5 degrees south, embracing northern Nigeria, the Soudan, Uganda, etc., with, of course, patches in favorable regions like many scattered parts of South Africa and Australia. The severest test that these will have to survive is the possibility of a flourishing season or two in the American crop, with a consequent drop from the present high prices. It is this enhancement which has been the opportunity of growers elsewhere, and we must not ignore the chance of their being withdrawn for the time. This would badly shake the confidence of tentative growers, and send them back to their older lines of cultivation until, of course, the greater and greater self-absorption, or America's own limits of production, brings about a favorable state of things once more. But I am loath to think of the growers' courage abandoning them in such a contingency, however trying, because of the way in which the work would be badly arrested which the association and the corporation have already done."

In conclusion, Mr. Himbury says that we are not doing half enough to develop British colonies. Probably some readers may suggest it is no time to be spending money, but it is important to consider the conditions and upon what the money is to be spent.

"If money can be justifiably spent," he says, "I think it should be found, and, if necessary, free of

interest for a time. Today, in this country we are faced with acute unemployment; antidotes are given in the shape of doles, which are unsatisfactory, if not degrading to most honest workmen. Money also is being spent on the construction of roads and parks—an expenditure I think we cannot afford; on the other hand, the empire is crying out for harbors, railways, waterworks, roads, lighting, etc. Railways are needed in the Sudan, Nigeria, Tanganyika, Kenya, Uganda and Nyassaland, not only for cotton, but for the economic development of these countries. The construction of the plant would give much employment to our engineering trades here, and, in addition, other industries would benefit. Then again, wages, both in Africa and elsewhere, would undoubtedly be spent on goods, so that practically the whole of this expenditure would be reproductive.

"It might not immediately pay interest on capital, and the British taxpayer might have to find this interest for a while; but we are now spending millions a year on doles, whereas by developing the Empire we are, after all, but developing our estate. The cotton which Lancashire alone requires is worth today $130,000,000. What an achievement if the whole of this could be spent within the Empire! This is no policy of protection, but of urgent necessity.

### Seydel-Thomas Co.

The following announcement has been made by the Seydel-Thomas Company:

"The name of Seydel has stood for many years as the standard of excellence in the manufacture of textile chemicals which have been made under the personal supervision of Paul Seydel, chief chemist and technical manager of an organization long and favorably known to the textile world.

"The name of Thomas has stood nearly as long for square dealing and honest effort in helping to solve sizing and finishing problems.

"The enviable position of the Southern mills today is due largely to the co-operation and exchange of ideas among the men responsible for their operation. An in keeping with this spirit of progress, and realizing the need of a closer co-operation between the manufacturer of textile chemicals and the men who use them, in order that the best results may be obtained, the Seydel-Thomas Company has been organized with an up-to-date plant in Atlanta, Ga., to take the best possible care of the requirements of the Southern textile mills.

"Paul Seydel, S. C. Thomas and C. C. Clark have severed their connection with the Seydel Chemical Company, of Jersey City, N. J., and Mr. Seydel will be in personal charge of making all our products, which are designated as "Seyco." S. C. Thomas and C. C. Clark will call upon the mills to offer our goods and service.

"Due to our highly specialized training and more than twenty years practical experience, we are in a position to meet the special and individual needs of the Southern mills in their warp dressing and finishing problems, and we hope you give us an opportunity to demonstrate to you the value of our service."

## Visiting the Textile Machinery Shops

(Continued from Page 7)

recent years and has every modern device, including machine drawing molds. They also have a special system of making their metal so as to get special qualities. Their machine shops contained specially built machines which insured accuracy of manufacture.

Most of the special machines were built for them by Brown & Sharpe.

One thing that interested me very much was their case hardening room where all surfaces that are subject to wear are case hardened.

The parts are packed with bone and chemicals into pots which are covered with iron filings. These are put into oil fed furnaces and heated to high temperatures, afterwards being immersed in oil baths.

The room is kept dark at all times so that the heat of the material may be judged by its color.

Their machine shop rooms are just lathes and drill presses and special machine, row after row, all turning out parts, and it looks like there are enough machines to build all the winders in the world in a few weeks. Their chief products for cotton are tube winders, cone winders and filling rewinders, but they make winders for wool, worsted, linen, jute, and asbestos, and build many machines for wire winding.

A truck had just come all the way from Schenectady, N. Y., to carry some wire winding machines that were badly needed by the General Electric Company.

Few people realize the size of the export business of the Universal Winding Company, but their machines are in use in almost every county in the world.

It was very interesting to watch the packing of the winders and it was easy to see that they had it down to a fine point.

As every kind of fibre requires a different machine and almost every factory has its own ideas about winding its products, the Universal Winding Company has to keep a large force of draughtsmen and experts to meet their problems.

My impressions of the plant of the Universal Winding Company were that it was much larger than I expected, that it was operated upon a very efficient basis and kept unusually clean.

Supt. E. F. Parks carried me back to Providence in his car, but before I left I asked Secretary Smith to arrange, if possible, for me to have an interview with Mr. Joseph R. Leeson, the founder of the business, as I wished to learn something of the early history of the winding machinery business.

Note.—These descriptions of the New England textile machinery shops will be continued in our next issue.)

## Some Causes of Uneven Dyeing of Cotton Piece Goods.

(Continued from Page 10)

lected with judgment. They should be of the same class, posses nearly equal solubility, and exhaust from the bath about alike. These properties are better determined by the colorists in the supply houses than by the average dyer. Of course, where a mill has a laboratory and a chemist, these tests may be carried out there, but as a rule, mill chemists are engaged chiefly in other work than testing dyes, leaving the latter for the dyer, if he chooses to make them. Most dyers rely upon the dyestuff house to do the recommending, and as a rule, the recommendations made are safe to follow.

Unevenness on cotton goods dyed with direct colors is seldom observed when the cloth is properly prepared, but it is sometimes noticed when dyed with the sulfur colors. As a rule, cotton cloth need not be as carefully prepared for dyeing when the sulfur colors are used, because the sodium sulfide in the dye-bath takes care of the usual foreign matters in the fabrics. However, better results will be uniformly obtained if the pieces are first boiled out.

When distinct unevenness is observed with the sulfur dyes, it is first necessary to look to the condition of the bath, and also to the handling of the pieces after dyeing. They should be squeezed, washed at once, and not allowed to lie around the dyehouse for any length of time. This caution applies more particularly to cloth dye blue or black, although brown and khaki are likely to show irregularities if not washed within a reasonable time.

When distinct parallel-sided bands are observed extending across the pieces, the only conclusion to arrive at is "wrong filling," a not unusual accident likely to occur in the best regulated weave room. It is purely a mechanical difficulty that is beyond the dyer and his dyes to correct.

Mercerized pieces play unusual pranks. In the process of mercerizing, the action of the strong caustic alkali solution used still further aids in removing any traces of starches and fatty matters remaining in the goods, but when unevenness shows, the probability is that the action of the alkali on the cotton has not been uniform. When this condition exists, the partially mercerized portions of the yarn or cloth will dye lighter shades than other portions, thereby causing a disagreeable unevenness that cannot be corrected except by redyeing the goods a much heavier shade.

On the other hand, there is always the possibility of errors being made in the dye-house, and while they are not as frequent as many believe them to be, they do occur. The most fruitful cause of unevenness on otherwise well prepared cloth is the careless addition of dissolved dye to the jig or continuous machine. In jig dyeing, this is most noticeable. It sometimes happens that all the dye is added at once, and not in two equal portions, consequently about one-half of the roll of cloth receives the full benefit of the dye while the other end is not so well favored.

Unevenness in jig dyeing has also been found to be the result of imperfect winding of the cloth as it passes through the liquor, and from one roll to the other. Sometimes, owing to the wearing away of the rolls, they are not of uniform diameter throughout their length, and this inequality causes a certain looseness in the winding at the smaller end. Some rolls are smaller in diameter in the middle, and this

causes laps or folds in the cloth as it winds, which are directly responsible for uneven streaks.

Spots on pieces, usually showing somewhat lighter than the surrounding color, are nearly always due to oil, and as explained above, oil or fatty acids are extremely difficult to remove from cotton. Machine oil, even when attempts are made to remove it with gasoline before dyeing, shows more or less distinctly after the goods have been dyed. This subject of spots or stains is of much importance, not only to bleachers, but to dyers, and will be the subject of a special article to be published at an early date.

### Trade Notes on Knit Goods.

The following bulletin has been issued by the Textile Division of the Bureau of Commerce:

**Argentina.**

The new tariff law will not affect the decree of October 6 which provided that hosiery of mixed and artificial silk is to be dutiable on its invoiced value, with the further provision that the minimum valuation for duty is to be four gold pesos per kilo on hosiery of cotton with artificial silk, six gold pesos per kilo on hosiery of wool with artificial silk, and eight gold pesos per kilo on hosiery of lisle or so-called lisle with artificial silk. It is reported that there are now 64 factories in Buenos Aires manufacturing stockings of cotton, artificial silk and mixtures. Three of these factories each produce one thousand dozen pairs daily.—Cable from Trade Commissioner George S. Brady, Buenos Aires, December 19.

**Colombia.**

There is a very good demand for knitted outerwear in the plateau regions of Colombia—Cundinamarca (Bogota), Santander, Narino, Cauca, Tolima, Huila and Antioquia, in the elevated parts. This is due to the cool climate in these sections. In the lowlands the sale of such is very casual. The sale of the imported article, however, is limited to the upper classes, possibly a million out of the eight million population. The peons buy domestic-made goods. Some of the local houses carry shawls made by women at home, knitted but more of woven wool cloth, the firm supplying the cloth or yarn and the women putting on the fringe (in the case of the cloth articles). Knitted coats, suits and capes are not used, or at most very little. The demand is for sweaters, shawls, mufflers, headwear, hosiery and knitted underwear, to a limited extent.—Trade Commissioner Carlton Jackson, Bogota, November 13.

**Switzerland.**

American hosiery is known only to a very few in this market. Swiss manufacturers supply most of the domestic consumption, but this product has not the proper shape and is invariably loose around the ankles. Men's hose seem to be knit the same size from top to heel. Neither in finish, style or fit is there anything attractive. Manufacturers and buyers appear to know very little about reinforced heels, mercerized top fibre, lisle soled silk, boot-seamed backs, split foot, etc. The thin woolen underhose for the comfortable wear of silk stockings in winter is also unknown. Of the small amount of hosiery imported, Germany furnishes the greater part. There is unmistakably a market here for the American well-knit, durable, inexpensive, and properly fitting hosiery, and with its many superior advantages, merchants, properly approached, should respond. This applies to cotton, mercerized cotton, wool, artificial silk, and silk; but the American popular-priced cotton hose would doubtless most easily initiate an entrance, with wool hosiery for Switzerland's great, rough, outdoor world coming next. — Consul Thornwell Haynes, Berne, November 12.

**Holland.**

Commercial Attache S. H. Cross, The Hague, writes that there is being considered a plan for an exhibit of American goods in The Hague, with a view to promoting the sale of American products in the Netherlands. Textile firms favorably disposed to setting up an exhibit at this exposition may be able to obtain further information on this subject by addressing the Textile Division of the Bureau of Foreign and Domestic Commerce.

**Mexico.**

Silk and artificial silk hosiery meets with a ready sale in the Guadalajara consular district, practically all of the larger stores carrying stocks of American and French manufacture. At the present time, however, importers are purchasing only in small quantities in order to restock their supplies, owing to the prevailing financial depression and the diminishing purchasing power of the public.—Consul A. J. McConnico, Guadalajara, November 8.

**Germany.**

During the week under review there was a further discontinuance of manufacturing operations and unemployment showed a perceptible increase. In the knitting industry, manufacturers are either dismissing part of their employees or else operating on short time. — Consul John E. Kehl, Breslau, November 10.

### Czechoslovaks Own 80% of Hungarian Textile Mills.

Members of the Czecho-Slovak Textile Manufacturers Association, in conjunction with trade interests in Hungary, established on November 13 a "Czecho-Slovak-Hungarian Business Association," for the purpose of facilitating and protecting the textile trade and its interests in the two countries. Reports from Budapest forwarded to the Commerce Department by Acting Commercial Attache Groves indicate that about 80 per cent of the rather rapidly increasing textile industry in Hungary is owned by Czech capital, and that this growing Hungarian industry is approaching the position where it can care for the needs of the country in the medium to lower qualities of yarns and finished goods.

# Cotton Goods

New York.—The cotton goods markets were very quiet during the past week, with gray goods and sheetings showing slight price reductions in second hands. Buyers showed more interest during the week, howveer, and many factors in the market are hopeful of a much better demand withi na few weeks. The new showing of wash goods, fancy ginghams and fancy domestics, but so far most new buying has been of a filling-in character. Prices on finished goods held steady through the week and in several instances showed an upward tendency.

Mills are not getting enough business to justify piling up stocks and curtailment showed an increase, especially among Eastern centers. It is estimated that more than five million spindles in New England are no wbeing operated on a part time basis.

Prices on cotton goods showed a good deal of irregularity, due to the unsettled trading conditions, fluctuations of raw cotton and the tendency of second hands to offer concessions. The dullness in the primary markets is showing signs of breaking, however, and it is believed by many mill men and merchants that there will soon be a return to the normal business of this season. Goods in retail hands are moving better and stocks are being cleared away that had been held up on account of the unseasonable weather.

Narrow print cloths are easier and sold on a basis of 6⅞ cents for 56x52s. It was said to be possible to buy 38½-inch 64x60s from second hands at 10½ cents, but no transactions at that figure were reported, most houses holding at 10¾ cents as a minimum.

There were reinstatements of branded brown sheeting prices by some of the mill agencies at prices slightly down from the extreme top. Limited quantities were offered for January and February in some houses. It was possible to buy 4-yard 56x60s in one quarter at 13¼ cents. Some traders would sell 5.50s at 9½ cents. Business was generally light and scattered.

Sateens are easier and are now to be had at 16¼ cents for 4.20s and 17½ cents for 64x112s. Some brokers said better prices could be named on second hand lots. There were some offerings of odd lots of twills. Osnaburgs are easier and sold at 17¼ cents for 30-inch 7-ounce spots.

Renewal orders on fancy silk-filled shirtings placed this week are stated to have been on a lower rather than a higher basis, due to the anxiety of competing manufacturers to secure business that was offered. Sales of narrow specialties in jacquard designs for exporting were reported in one mill center.

Within the past few days tire companies have placed orders for several million pounds of fabrics. These new commitments represent contracts for deliveries during the second quarter of the year. Only a moderate fraction of the tire industry's requirements between April 1 and June 30 are thereby provided for. It must come in for additional supplies. In the meantime quotations hold between 62 cents and 65 cents for 1 1-16 inch staple, with occasional sales of 1⅛ inch carded peeler cords going thruogh at 68 to 70 cents.

Moderate trading in 36-inch low count numbers continued in the Fall River market with sales reported of 28x24, 15.00 at 4⅝, and 32x28 at 5⅜ cents. There was very little inquiry relative to other numbers on the list with no change in quotations.

Cotton goods prices were quoted as follows:

Print cloths, 28-inch, 64x64s, 8⅜ cents; 64x60s, 8⅛ cents; 38½-inch 64x64s, 11⅜ cents; brown sheetings, Southern standard, 17¼ cents; denims, 2.20s, 26 and 27 cents; tickings, 8-ounce, 30 cents; prints, 10¾ cents; staple ginghams, 19 cents; dress ginghams, 21½ and 24 cents.

### Estimated Automobile Production.

Such a large amount of cotton goods are used in automobile production that an estimate of the 1924 production is of real interest.

Based upon a questionnaire one automobile association estimates the United States 1924 production of cars and trucks at 3,500,000 as compared to 4,000,000 in 1923 and 2,650,000 in 1922.

As there is no large stock of automobile fabrics that should indicate a steady demand throughout 1924.

### Grantville Hosiery Mills.
Grantville, Ga.
10,000 spinning spindles.

J. F. Brasch ..... Supt.
J. T. Ellington ..... Carder
R. D. Walker ..... Spinner
W. H. Bolton ..... Dyer
Grady Smith ..... Master Mechanic

# The Yarn Market

Philadelphia, Pa.—There was very little change in the yarn markets last week. Only a small amount of business was done and inquiry was not as large as during the previous week. Buyers continued to resist present prices and showed no inclination to buy beyond their most pressing needs. There was little change in the price list, except that some dealers' quotations were a trifle lower after the cotton decline toward the latter part of the week. As a rule, spinners disregard the cotton fluctuations and held firmly to quoted prices, believing that there will be a renewal of yarn buying as soon as the cotton situation is more fully realized.

There was fair inquiry for weaving yarns during the week, but less interest in knitting yarns, especially those used by the underwear manufacturers. Prices on the latter were quoted at concessions by dealers in this market, although there was no change in spinners' prices. The mild winter has had an adverse effect on heavyweight underwear business and knitters on these styles are reported to be carrying considerable stocks of merchandise.

The carpet trade bought moderately for delivery in March and April and insulators took fair sized quantities for nearby deliveries. The towel webbing and lace manufacturing trades showed only moderate interest during the week.

There was some interest in mercerized yarn, inquiry being fair and sales moderately large, although sellers of these yarns complain that the price situation is very unsatisfactory. Mills state that prices now are at cost and in some cases below cost. Hosiery mills are said to have only a limited amount of business for products made of mercerized yarns and are indifferent over future supplies until they have more orders on their books. Some sellers of mercerized yarn are expecting good business by the end of the month, while others believe that it will be several weeks yet before any improvement comes.

Prices in this market were quoted as follows at the week end:

| | | |
|---|---|---|
| **Two-Ply Chain Warps.** | | |
| 2-ply 8s | 50 | a__ |
| 10s | 51 | a__ |
| 12s to 14s | 52 | a53 |
| 2-ply 16s | 54 | a__ |
| 2-ply 20s | 55 | a55½ |
| 2-ply 24s | 57½ | a58 |
| 2-ply 26s | 58½ | a59 |
| 2-ply 30s | 61 | a62 |
| 2-ply 40s | 70 | a__ |
| 2-ply 50s | 83 | a85 |
| **Two-Ply Skeins.** | | |
| 8s | 49 | a__ |
| 10s to 12s | 50½ | a51 |
| 14s | 52 | a__ |
| 16s | 53 | a__ |
| 20s | 54 | a54½ |
| 24s | 57 | a__ |
| 26s | 58 | a__ |
| 30s | 60 | a__ |
| 36s | 66 | a67 |
| 40s | 68 | a69 |
| 40s ex. | 74 | a75 |
| 50s | 82 | a__ |
| 60s | 90 | a__ |
| Tinged Carpets— | | |
| 3-ply | 46 | a__ |
| Act. tinged | 48 | a__ |
| 4-ply | 48 | a__ |
| 5-ply | 48 | a__ |
| **Part Waste Insulating Yarns.** | | |
| 6s, 1-ply | 44 | a45 |
| 8s, 2, 3 and 4-ply | 44½ | a45 |
| 9s, 1-ply and 2-ply | 46 | a47 |
| 20s, 2-ply | 54 | a__ |
| 26s, 2-ply | 58 | a__ |
| 30s, 2-ply | 60 | a__ |
| **Duck Yarns.** | | |
| 3, 4 and 5-ply— | | |
| 8s | 48 | a__ |
| 10s | 49 | a__ |
| 12s | 50 | a51 |
| 16s | 53 | a__ |
| 20s | 55 | a__ |
| **Single Chain Warps.** | | |
| 10s | 50 | a__ |
| 12s | 51 | a__ |
| 14s | 52 | a__ |
| 16s | 53 | a__ |
| 20s | 54 | a__ |
| 24s | 57 | a__ |
| 26s | 58 | a__ |
| 30s | 60 | a__ |
| 40s | 72 | a__ |
| **Single Skeins.** | | |
| 6s to 8s | 48 | a__ |
| 10s | 49 | a__ |
| 12s | 50 | a__ |
| 14s | 51 | a__ |
| 16s | 52 | a__ |
| 20s | 54 | a__ |
| 24s | 56½ | a__ |
| 26s | 57 | a__ |
| 30s | 60 | a61 |
| **Frame Cones.** | | |
| 8s | 48 | a__ |
| 10s | 48½ | a49 |
| 12s | 49½ | a50 |
| 14s | 50½ | a51 |
| 16s | 51½ | a52 |
| 18s | 52½ | a53 |
| 20s | 53 | a54 |
| 22s | 54 | a55 |
| 24s | 55 | a55½ |
| 26s | 55½ | a56 |
| 28s | 57 | a58 |
| 30s | 58 | a60 |
| 30s bdl. ord. | 62 | a64 |
| 30s tying in | 57 | a59 |
| 40s | 66 | a68 |
| **Combed Peeler Skeins, Etc.** | Mill prices. | |
| 2-ply 10s | 65 | a__ |
| 2-ply 20s | 70 | a__ |
| 2-ply 30s | 75 | a__ |
| 2-ply 36s | 78 | a80 |
| 2-ply 40s | 82½ | a85 |
| 2-ply 50s | 90 | a93 |
| 2-ply 60s | 95 | a1 00 |
| 2-ply 70s | 1 05 | a1 10 |
| 2-ply 80s | 1 20 | a1 25 |
| **Combed Peeler Cones.** | | |
| 10s | 57 | a58 |
| 12s | 58 | a59 |
| 14s | 59 | a60 |
| 16s | 60 | a61 |
| 18s | 61 | a62 |
| 20s | 62 | a62½ |
| 22s | 63 | a63½ |
| 24s | 63½ | a64 |
| 26s | 64½ | a65 |
| 28s | 65 | a66 |
| 30s | 66 | a68 |
| 32s | 71 | a73 |
| 34s | 73 | a75 |
| 36s | 78 | a80 |
| 38s | 79 | a81 |
| 40s | 80 | a82 |
| 50s | 85 | a90 |
| 60s | 95 | a1 00 |
| 70s | 1 10 | a1 15 |
| 80s | 1 25 | a1 80 |

# Want Department

Wanted — Position as second hand in spinning room. First-class references. Address F. S. K., care Southern Textile Bulletin.

**Whitin Draw Frames For Sale.**
Six deliveries per frame, metallic rolls. For full information address Arista Mills Company, Winston-Salem, N. C.

**Wanted.**
High-class assistant superintendent for one of the best fancy weaving mills in the South. Must be a fancy weaver, good manager of labor and be in position to furnish the best of references. Address C. L. R., care Bulletin.

Wanted—A partner or an organization to install a textile mill, knitting mill or yarn mill in my brick building in Ennis, Texas. Building 50 ft. by 110 ft., two story, and well suited to business. Abundant water supply, cheap natural gas fuel, or electric power. Abundant labor supply. Abundant raw material supply and ready market for products. Will take stock for my property in full or in part. Address S. H. Dunlap, Ennis, Texas.

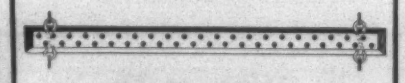
**WANTED**
Position as general manager of good yarn mill. Fully understand selling of yarns, buying of cotton, as well as all other supplies pertaining to mill. Know the mill business thoroughly. Can take a liberal amount of stock and help to finance, or would take position as general manager and superintendent. Address No. 78, care Southern Textile Bulletin.

**Manufacturer's Agency**
"Factory to Consumer"
Save money on your Steel and Wood Filing Equipment, Desks, Chairs, Tables, Steel Lockers, Safes, Safety Deposit Boxes, Shelving. Write for quotations.
J. D. MATHIS, P. O. Box 812
Phone 3564 Charlotte, N. C.

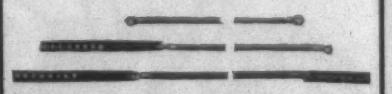
**Superintendent and Designer**
Superintendent and designer open for position after January 19. Now employed as superintendent. Practical weaver and designer on cotton dress goods, fancy shirtings, fancy ginghams, Jacquard damasks, fancy bed spreads. Would like to connect with mill needing a man or mill contemplating changing to fancy weaving of any description. References as to ability and integrity. Address Fancy Weaver, care Southern Textile Bulletin.

WELL DRILLING AND DEEP WELL PUMPS
We do the engineering, and have had 32 years experience solving water problems satisfactorily for textile mills.
Sydnor Pump & Well Co., Inc.
Richmond, Va.

**Improved Dobby Chain**



**Dobby Cords**



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Send Us Your Order To-day

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NEW YORK, N. Y. PROVIDENCE, R. I. BOSTON, MASS.
PHILADELPHIA, PA. CHARLOTTE, N. C.

*Importers and Manufacturers of*

**Starches, Gums, Dextrine Alizarine Assistant, Soluble Oil, Soap**

And Every Known Material from every part of the world for Starching, Softening, Weighting, and Finishing Yarn, Thread or any Fabric

Special attention given by practical men to specialties for Sizing, Softening, Finishing and Weighting Cotton, Woolen and Worsted Fabrics; combining the latest European and American methods.

*Sole Agents For*

**BELLE ALKALI CO., of Belle, W. Va.**

*Manufacturers of*

**Liquid Chlorine, Bleaching Powder, Caustic Soda**
**Solid or Flaked**

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## U. S. Ring Traveler Co.

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**AMOS M. BOWEN, Treasurer**

Wm. P. VAUGHAN, Southern Representative
P. O. Box 792 - - - - GREENVILLE, S. C.

U. S. Ring Travelers are **uniformly tempered** which insures even-running spinning. They are also correct as to **weight** and **circles.** Quality guaranteed.

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Established 1838

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Toe Closing
Mock Seaming
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Minimum Cost of Upkeep
Unexcelled Quality of Work

THE MERROW MACHINE COMPANY
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# WENTWORTH

## Double Duty Travelers

Last Longer, Make Stronger Yarn, Run Clear, Preserve the SPINNING RING. The greatest improvement entering the Spinning room since the advent of the HIGH SPEED SPINDLE.

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*"Warp Dressing Service Improves Weaving"*

NORFOLK - - VIRGINIA

# EMPLOYMENT BUREAU

The fee for joining our employment bureau for three months is $2.00 which will also cover the cost of carrying a small advertisement for one month.

If the applicant is a subscriber to the Southern Textile Bulletin and his subscription is paid up to the date of his joining the employment bureau the above fee is only $1.00.

During the three months' membership we send the applicant notices of all vacancies in the position which he desires.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile industry.

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WANT position as overseer weaving. Familiar with variety of weaves and can furnish excellent references. Address No. 3805.

WANT position as superintendent, overseer weaving. Thoroughly trained in all departments of mill, I. C. S. graduate. Understand jacquard weaving. Age 30, married, no bad habits. Good references. Address No. 3806.

WANT position as overseer spinning or as assistant superintendent by man who can get results, either yarn or weave mill. Best of references. Address No. 3807.

WANT position as overseer spinning. Age 37, 12 years as overseer. First class references. Address No. 3808.

WANT position as superintendent, or overseer large card or spinning room. High class man, experienced and practical, references to show good past record. Address No. 3809.

WANT position as superintendent of large yarn mill. Have been overseer and superintendent in some of best yarn mills in North Carolina. Have fine record as to quality and quantity at low cost. Address No. 3810.

WANT position as carder or spinner or both. Capable of handling large room in first class man. Long experience, fine references. Address No. 3811.

WANT position as carder or spinner. Experineced mill man, now running card room at night but want day job. Good references as to character and ability. Address No. 3812.

WANT position as superintendent. Practical man of long experience and ability to get good results. Now employed as superintendent. Good references. Address No. 3813.

WANT position as master mechanic. Have had 24 years experience in cotton mill shops both steam and electric drive. References. Address No. 3813-A.

WANT position as overseer weaving on Draper looms, plain white goods preferred. Now employed, but desire better job. Good references from good mill men as to character and ability. Address No. 3815.

WANT position as overseer carding. Good man, now employed, but wish better position. First class references showing good past record. Address No. 3816.

WANT position as superintendent of yarn or weave mill. Long experience in carding, spinning and weaving, and winding. Can get quantity and quality production at lowest cost. Age 39, good character and references. Address No. 3817.

WANT position as superintendent. Practical manufacturer of ability and experience. Good manager of help. Fine references. Address No. 3818.

WANT position as overseer weaving. First cuass weaver in every respect, sober, reliable and hard worker. Experienced on wide variety of goods. Good references. Address No. 3819.

WANT position as superintendent or manager of yarn or cloth mill in the Carolinas. Now general superintendent of large mill, have held job satisfactorily for three years but have good reasons for wanting to change. Good references. Address No. 3821.

WANT position as superintendent, overseer carding or assistant superintendent on yarn or plain cloth mill. High class, reliable man, good manager of help. A-1 references. Address No. 3822.

WANT position as overseer weaving. Strictly high class man of good character; long experience in weaving, best of references. Address No. 3823.

WANT position as superintendent, or carder or spinner. Now employed as spinner in mill on fine yarns and am giving entire satisfaction, but want larger place. Good references. Address No. 3824.

WANT position as superintendent, carder or spinner. Practical man of long experience in good mills. Fine references. Address No. 3825.

WANT position as master mechanic. Now employed, but want larger job. Many years experience as mechanic, steam and electric drive. Excellent references. Address No. 3826.

WANT position as superintendent or traveling salesman. Experienced mill man and can give excellent references. Address No. 3827.

WANT position as superintendent. Have held position as such in some of the best mills in South and give satisfactory references to any mill needing first class man. Address No. 3827.

WANT position as master mechanic. Long experience in mill machine shop, fully competent to handle large job. Fine references. Address No. 3829.

WANT position as overseer carding or spinning, or superintendent. Practical man who has had many years experience as superintendent and overseer and can get satisfactory results. Best of references. Address No. 3821.

WANT position as superintendent of yarn mill or carder or spinner. Thoroughly familiar with these departments and am well qualified to handle either a room or a mill. Good references as to character and ability. Address No. 3832.

WANT position as superintendent of mill in North Carolina making yarns or print cloths. Now employed as superintendent of 27,000 spindle mill making 30s hosiery yarn and 64x60s print cloth. Am giving satisfaction but have good reason for making change. Best of references. Address No. 3833.

WANT position as superintendent or overseer carding. Long experience as both and can get good production at low cost. Would like to correspond with mill needing high class man. Address No. 3834.

WANT position as overseer of carding. Good worker of long experience in number of good mills. First class references to show past record. Address No. 3835.

WANT position as superintendent or overseer carding and spinning. Now employed, but wish larger place. Competent, reliable man who can give satisfaction in every way. Good references. Address No. 3836.

WANT position as superintendent or manager. Have had long experience as superintendent and am high class man in every respect. Can handle mill on any class of goods made in South. Want to correspond with mill needing high class executive. Excellent references from reliable mill men. Address No. 3837.

WANT position as overseer weaving. Practical weaver who can get big production at the right cost. Fine references. Address No. 3838.

WANT position as overseer weaving. Can handle any fabric made in South. Have had over 27 years experience from loom fixer to overseer weaving and was promoted steadily by one of largest mills in the South. Married, have family, religious worker, good manager of help. Can give excellent list of references. Address No. 3839.

WANT position as superintendent, prefer South Carolina or Georgia. Now employed as assistant superintendent and weaver and am giving entire satisfaction. Have good reasons for wishing to change. Excellent references. Address No. 3840.

WANT position as overseer weaving, prefer job of fancies. Have been weaver for past 10 years with one of the finest mills in the South. Excellent references to show a fine record. Address No. 3841.

WANT position as superintendent, yarn mill preferred. High class man who is well trained and has had long experience. Best of references. Address No. 3842.

WANT position as superintendent. Now employed as such, but want better job. Good weaver as well as superintendent and get operate weave mill on very satisfactory basis. Address No. 3843.

WANT position as superintendent, carder or spinner. Now employed as superintendent. Long experience as both overseer and superintendent and can get satisfactory results. Address No. 3844.

WANT position as overseer carding. Have had long experience and can furnish best of references from past and present employers. Address No. 3852.

WANT position as overseer weaving. Experienced in wide variety of fabrics and can give satisfaction. Now employed. Best of references. Address No. 3853.

WANT position as dyrer, 12 years experience on long and short chain work, raw stock, beam and Franklin machines. Can handle any size jobs on cotton. Good references and can come on short notice. Address No. 3854.

WANT position as overseer carding. Experienced an dreliable man who can handle your room on efficient and satisfactory basis. Good references. Address No. 3855.

WANT position as superintendent of medium sized mill or weaver in large mill, white or colored goods; 20 years as overseer weaving, slashing and beaming in number of South's best mills. Have held present place for nine years and am giving entire satisfaction. Address No. 3856.

WANT position as superintendent of plain or fancy goods mill, would consider offer of medium size mill at reasonable salary. Thoroughly conversant with all departments. Address No. 3857.

WANT position as superintendent of yarn or cloth mill, ginghams preferred; age 40, have family; 22 years experience, 8 years as carder and spinner and assistant superintendent; have held last position as superintendent for 7 1-2 years. N. . mill preferred. Good references. Address No. 3858.

WANT position as overseer weaving or superintendent. Long experience in good mills and can get good results. Best of references. Address No. 3859.

WANT position as overseer carding; age 33, married, 14 years in carding; 5 years as overseer. Now employed but have good reasons for wishing to change. Address No. 3860.

WANT position as superintendent of weaving mill, or would take overseer weaving in large mill on plain or fancy goods. Now employed in good plant and can give good references. Fine record in good mills. Address No. 3861.

WANT position as overseer spinning, 17 years in spinning room, now employed as second hand in 35,000 spindle room; age 28, married, sober, reliable and church member. Good references. Address No. 3862.

WANT position as overseer spinning, spooling or twisting. Age 29, married, 10 years on spinning. Can furnish good reference. Address No. 3863.

WANT position as carder or spinner, or both. Age 35, married, practical carder and spinner and can furnish fine references as to character and ability. Address No. 3864.

WANT position as overseer spinning, or carding and spinning, can give good references as to character and ability, strictly sober, now employed but have good reasons for wishing to change. Address No. 3865.

WANT position as overseer cloth room, experienced on drills and sheetings; also colored goods. Can give A1 references. Address No. 3867.

WANT position as carder or spinner, or both. Experienced and reliable man, who can produce good results. Good references. Address No. 3868.

WANT position as superintendent, now employed as such, but wish to change; 4 years in present place, 8 years as carder and spinner or both warp and hosiery yarns, 5 years as spinner, been in mill over 25 years, thoroughly understand all processes from picker room to winding and twisting. Good knowledge of steam and electricity. Address No. 3869.

WANT position as overseer spinner, at $30 weekly or more, now employed in good mill, practical and experienced man. Best of references. Address No. 3870.

WANT position as superintendent or weaver; long practical experience, and can produce quality and quantity production. Address No. 3871.

WANT position as overseer weaving; 12 years on heavy duck, 14 years as overseer on sheetings, drill, osbaurgs, grain bag, tubing and rope machines; am 48. Can change on short notice. Good references. Address No. 3872.

WANT position as overseer weaving, experienced on large variety of goods and can handle room on efficient basis. Address No. 3873.

WANT position as superintendent of small mill, or weaver in large plant; now employed as overseer slashing, warping and drawing-in on 360 Draper looms. Good references. Address No. 3874.

WANT position as superintendent, yarn or weave mill. Now employed, but wish larger place Excellent past record. Good references. Address No. 3875.

WANT position as agent superintendent or manager of Southern mill on white work. Would be interested in buying s tock. Can furnish best of references and can show results. Address No. 3876.

WANT position as overseer weaving, now running 800 looms and giving satisfaction; familiar with colored checks, chambrays, many other lines; age 39, married, good references. Address No. 3877.

WANT position as overseer weaving; age 29, married, I. C. A. graduate, experienced on plain and fine work including all kinds of cotton towels and specialties. Good references. Address No. 3879.

WANT position as superintendent; 28 years experience in mill, have held present place as superintendent for 8 years, have good reasons for wanting to change. Best of references. Address No. 3880.

WANT position as supt. of yarn mil, or carder and spinner. Now employed as carder. Can furnish good references to show my record. Address No. 3881.

WANT position as carder in large mill, or supt. of small yarn mill; 20 years as carder and spinned; mostly in carding and assistant supt. Now employed as carder and assistant supt. Good references. Address No. 3882.

WANT position as carder or spinner, or both. Practical man of long experience; have excellent references. Address No. 3882.

WANT position as supt. or weaver, long experience in good mills, excellent references to show character and ability. Address No. 3883.

WANT position as supt. of spinning mill, practical experienced man of good ability and can get results. Address No. 3884.

WANT position as supt. and manager of small or medium mill, or overseer of large, good paying weave room. Excellent references. Address No. 3885.

WANT position as master mechanic; 20 years experience, now employed, good references to show excellent past record. Addrss. No. 3886.

WANT position as carder and spinner or both, or supt.; 25 years in mill, 18 as supt.; married, have family. Address No. 3887.

WANT position as spinner, white work preferred; experienced and reliable man. Can come on short notice. Best of references. Address No. 3888.

WANT position as overseer of spinning, now employed as such and giving satisfaction, but wish larger place. Married, good habits, reliable and competent. Good references. Address No. 3889.

WANT position as overseer spinning. Experienced spinner, practical and capable, good character and habits, best of references. Address No. 3890.

WANT position as supt. or would take carding or spinning. Good references to show an excellent past record and can product good results. Address No. 3891.

WANT position as carder or spinner in large mill, or supt. of small or medium size mill. Long experience in good mills; good manager of help. First class references. Address No. 3892.

WANT position as supt. of small mill, with opportunity of investing in mill and advance. Long experience as overseer, good character, inventor and owner of patent that will be of great value to mill equipped to use waste sock. Patent would give mill big advantage in manufacture of twine, rope and similar products. Would take stock for entire amount of pattern and invest small amount in addition, or would consider new mill. Address No. 3893.

WANT position as master mechanic. Long experience on both steam and electric work, 14 years in mill shops, good references. Address No. 3895.

WANT position as supt., assistant supt., carder or spinner, mule or ring frames, good man of long experience, best of references. Address No. 3894.

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Lestershire Spool & Mfg. Co., Johnson City, N. Y.
Leverett & Moore, Hillsboro, Texas.
Link-Belt Co., Chicago, Ill.
Lockwood, Greene & Co., Boston, Mass.
Lowell Shuttle Co., Lowell, Mass.
Lupton's Sons Co., David, Philadelphia, Pa.

—M—

Macrodi Fibre Co., Woonsocket, R. I.
Magruder, L. W. & Co., Memphis, Tenn.
Marston, John P. Co., Boston, Mass.
Mathieson Alkali Co., New York City.
Mauney Steel Co., Philadelphia, Pa.
Merrow Machine Co., Hartford, Conn.
Metallic Drawing Roll Co., Indian Orchard, Mass.
Metz, H. A. & Co., New York City.
Mill Devices Co., Durham, N. C.
Minter Homes Co., Greenville, S. C.
Moreland Sizing Co., Spartanburg, S. C.
Morse Chain Co., Ithaca, N. Y.
Mossberg Pressed Steel Corp., Attleboro, Mass.

—Mc.—

McCaughey, Edward J., Pawtucket, R. I.
McCausland, J. N. & Co., Charlotte, N. C.
McClave-Brooks Co., Scranton, Pa.

—N—

National Aniline & Chemical Co., New York City.
National Ring Traveler Co., Providence, R. I.
Newburger Cotton Co., Memphis, Tenn.
N. Y. & N. J. Lubricant Co., New York City.
Nichols Mfg. Co., Asheville, N. C.
Norwood Engineering Co., Florence, Mass.

—O—

Okla. Cotton Growers' Assn., Oklahoma City, Okla.
Oliver, B. F. & Co., Clarksdale, Miss.

—P—

Page Fence & Wire Products Assn., Chicago, Ill.
Paige, Schoolfield & Co., New York City.
Palmetto Loom Harness & Reed Works, Greenville, S. C.
Parker, Walter L. Co., Lowell, Mass.
Parker, B. H. & Co., Gastonia, N. C.
Parks-Cramer Co., Fitchburg, Mass.
Paulson, Linkroum & Co., New York City.
Pawtucket Spinning Ring Co., Central Falls, R. I.
Penick & Ford, Cedar Rapids, Iowa.
Perkins, B. F. & Son, Holyoke, Mass.
Poland Soap Works, Anniston, Ala.

—R—

Rash, Brin & Co., Terrell, Texas.
R. I. Warp Stop Equipment Co., Pawtucket, R. I
Rice Dobby Chain Co., Millbury, Mass.
Ridley, Watts & Co., New York City.
Robinson, John L. & Co., Memphis, Tenn.
Roessler & Hasslacher Chemical Co., New York City.
Rogers Fibre Co., Boston, Mass.
Rogers, J. F. & Co., Clarksdale, Miss.
Root Co., Bristol, Conn.
Rose, Geo M., Jr., Charlotte, N. C.
Roy, D. S. & Son, Worcester, Mass.

—S—

Saco-Lowell Shops, Charlotte, N. C.
Sanders, Orr & Co., Charlotte, N. C.
Seaboard Ry., Charlotte, N. C.
Sellers, William & Co., Philadelphia, Pa.
Shambow Shuttle Co., Woonsocket, R. I.
Sirrine, J. E. & Co., Greenville, S. C.
S. K. F. Industries, New York City.
Sonneborn, L. Sons., New York City.
Sonoco Products, Hartsville, S. C.
Southern Distributing Co., Charleston, S. C.
Southern Ry., Charlotte, N. C.
Southern Spindle & Flyer Co., Charlotte, N. C.
Southern Textile Machinery Co., Greenville, S. C.
Southern Wood Preserving Co., Atlanta, Ga.
Spinks, John D., Winston-Salem, N. C.
Stafford Co., Readville, Mass.
Steel Heddle Mfg. Co., Philadelphia, Pa.
Stein, Hall & Co., New York City.
Stewart Bros. Cotton Co., Charlotte, N. C.
Sugar Creek Coal Sales Co., Mount Hope, Va.
Sweeny, R. P., Greenville, S. C.
Sydnor Pump & Well Co., Richmond, Va.

—T—

Tanner & Jones, Charlotte, N. C.
Terrell Machine Co., Charlotte, N. C.
Textile Mill Supply Co., Charlotte, N. C.
Thomas Grate Bar Co., Birmingham, Ala
Tipton & Co., Brownsville, Tenn.
Tolhurst Machine Works, Troy, N. Y.
Tripod Paint Co., Atlanta, Ga.

—U—

United Chemical Products Co., Jersey City, N. J.
U. S. Bobbin & Shuttle Co., Providence, R. I.
U. S. Ring Traveler Co., Providence, R. I.
Universal Winding Co., Boston, Mass.

—V—

Vermont Spool & Bobbin Co., Burlington, Vt.
Victor Ring Traveler Co., Providence, R. I.
Vogel, Joseph A. Co., Wilmington, Del.

—W—

Wadsworth, Howland & Co., Boston, Mass.
Watson, L S. Mfg. Co., Leicester, Mass.
Watson, White Co., Jackson, Tenn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Whitin Machine Works, Whitinsville, Mass.
Whitinsville Spinning Ring Co., Whitinsville, Mass.
Williams, J. H. Co., Millsbury, Mass.
Williams, Chauncey A., Manchester, N H.
Williams, I. B. & Son, Dover, N. H.
Wilson, William & York, Charlotte, N. C.
Wilts Veneer Co., Richmond, Va.
Wolf, Jacques & Co., Passaic, N. J.
Woods, T. B. Sons Co., Chambersburg, Pa.